The Afroasiatic Fallacy [TAF]

Contents

1. Introduction

1.1 The concept of an Afroasiatic language family became established in the 1950s, in no small degree following on work by Greenberg, a major feature of which was the hypothesis that the Chadic languages constitute a branch of the proposed family.[1] Greenberg's analysis was founded to a

[1] For an overview of the history of Afroasiatic studies see R. J. Hayward, 'Afroasiatic' (§4.2) in Heine. and Nurse, (eds), *African Languages an Introduction [ALAI]*. Greenberg recognised Semitic, Egyptian, Berber, Cushitic and

considerable degree on 'mass comparison', a technique whereby the traditional method of seeking to identify sound laws (among other strategies) to support or indeed supposedly to 'prove' morphological and lexical relationships between groups of languages is subordinated to a quasi-statistical analysis founded primarily on impressionistic judgements about relationships among lexical and grammatical items. In the late 1960s Greenberg's division of the Afrosiatic family into five language groups was modified when the Omotic language family was proposed as a further grouping, distinct from Cushitic, with which it had previously been included. Mass comparison has been criticised, firstly for the unscientific and almost crude nature of many of its comparisons, and secondly for the very low statistical threshold that has been accepted as a basis for including languages and language groups within the Afroasiatic family, a threshold so low as to permit unquestionably non-Afroasiatic languages to be 'proposed' as cognates.[2]

1.2 Perhaps the most intractable problem in the Afroasiatic debate has been the question of where the proposed 'Common Afroasiatic' language originated. One school of thought (apparently the current scholarly consensus) supports an African origin, primarily, and it must be said simplistically, on the ground that the majority of Afroasiatic languages are spoken in Africa.[3] Another school argues for the Levant, not least on the basis of supposedly shared terms for agriculture and pastoralism, activities taken to have originated in the Levant and the Fertile Crscent (*ALAI* 'Afroasiatic' §4.4). But the substantial geographical and linguistic problems associated with both hypotheses (Sections 5 and 6 below) become yet more intractable when evidence from climate, archaeology and genetics is taken into consideration. The present study attempts to account for the distribution of the 'Afroasiatic' languages primarily on the basis of these three kinds of evidence, in association with language. However it must be said at the outset that, with the partial exception of language, the evidence from the various sources remains somewhat fragmentary and these limitations are inevitably reflected in what follows.

2. Climatic and Environmental Background

2.1 Introduction

2.1.1 Fundamental to understanding the pre-history of the 'Afroasiatic' peoples is the sequence of

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Chadic branches, but not Omotic.

[2] See for example R. Theil, 'Is Omotic Afroasiatic' (Wikipedia).

[3] For example E. Lipiński, *Outline of a Comparative Grammar of the Semitic Languages [OCG]* pp42-8.

climatic changes that have occurred in Saharan Africa and Arabia during the Holocene period, subsequent to the last ice age. There are various types of evidence for this sequence – environmental, rock art, animal and plant remains - but particularly important is the evidence for periods of high and low rainfall in Saharan Africa and Arabia.

2.1.2 Mention should first be made of the Bölling-Allerød warm period which occurred towards the end of the last ice age, from about 12,500 – 11,000 BCE. This period would presumably have permitted a degree of utilisation of the present-day desert regions, although on the evidence of the varying levels of Lake Chad (see below) rainfall levels would have been modest at best, certainly in the Sahara and presumably also in Arabia. Bölling-Allerød was followed, from about 11,000 to 9,500 BCE, by the colder and dryer Younger Dryas, in turn followed by the Holocene. During the Holocene the Sahara and Arabia have been subject to cycles of moister and dryer periods, influenced on the one hand by a wetter climatic regime moving north from sub-Saharan Africa and the Indian Ocean, and on the other by southward movements of the Mediterranean westerly climatic regime.

2.2 The Sahara

2.2.1 Holocene patterns of higher and lower rainfall in the Sahara are evidenced by variations in the level of Lake Chad (15º N). These suggest the pluvial maxima and minima shown in the following table.[4]

TABLE 1 LAKE CHAD MAXIMA AND MINIMA

Maxima (BCE)	Minima (BCE)
9750	8750
7250	5500
4250	2000
1000	250

Not dissimilar patterns are recorded elsewhere in Saharan Africa, as shown in Table 2 for two other locations (all dates approximate).[5]

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[4] Data from graph on p95 of the *Times Atlas of Archaeology [TAA]*.

[5] Much of the data in this section is drawn from L. Krzyzaniak et. al. (eds), *Environmental Change and Human Culture in the Nile Basin and Northern Africa until the Second Millennium B.C. [ECHC].* The Fayyum data source is Fig. 1 of J.K. Kozłowski and B. Ginter, 'Holocene Changes in the Fayyum, Lake Moeris and the evolution of climate in Northeastern Africa' (*ECHC* p332) and the N. Dharfur source is Fig. 3 of H.J. Dumont and A.I. el-Maghrabi, 'Holocene evolution of climate and environment, and stone 'city' ruins in N. Darfur, Sudan' (*ECHC* p384). The

TABLE 2 FAYYUM AND N. DHARFUR PLUVIAL MAXIMA AND MINIMA

Fayyum Depression (30º N)		N. Dharfur (15º N)	
Maxima (BCE)	Minima (BCE)	Maxima (BCE)	Minima (BCE)
	6750		
5250	4750	6300 (?)	5000
		4600	4300
3500	2300	3300	2500
1800		1800	

2.2.2 Although Fayyum, at 30º N, would presumably have been influenced primarily by the Mediterranean climatic regime and N. Dharfur at 15º N by the African regime, both sets of data agree with those for L. Chad in suggesting pluvial minima at around 5,000 BCE (L. Chad 5,500, N. Dharfur 5,000, Fayyum 4,750) and around 2,250 BCE (N. Dharfur 2,500, Fayyum 2,300, L. Chad 2,000). A generalised date for the intervening pluvial maximum is more elusive. The N. Dharfur and Fayyum data (both 'eastern' sites) seem to agree on a date of 3,500-3,300 BCE, whereas the N. Dharfur (again) and L. Chad data suggest a date range 4,600-4,250 BCE. Splitting the difference between the generalised minima of 5,000 and 2,250 would suggest a pluvial maximum at around 3,875 BCE. Splitting the difference between the higher and lower ranges of maxima likewise suggests a date of around 3,900 BCE, but whether these are legitimate arguments is somewhat questionable. But of course this very general overview, covering an extensive geographical area, cannot take into account the influence of more local geographical and climatic factors, which would undoubtedly have influenced the timings of the various maxima and minima.

2.2.3 At the pluvial maxima L. Chad was considerably larger than today, and other, now dried up lakes were also present in the southern Sahara, in particular between about latitudes 12ºN and 20ºN (see map on *TAA* p94). In addition, what are currently large wadis were at these times river valleys, perhaps to some extent seasonal. A particularly interesting example for present purposes is Wadi Howar, which runs E.N.E across N. Sudan, starting at about latitude 16ºN, longitude 24ºE. Satellite imagery shows that at the pluvial maxima the river flowing through this wadi ran into the Nile between the 3rd and 4th

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Fayyum source also suggests maxima and minima subsequent to 1,800 BCE but these are only marginally relevant to the present discussion (although see §7.3.3 below).

cataracts, in the region of Debba, at approximately 20ºN, 31ºE.[6] Fossil beds in certain parts of the wadi have yielded fish species which today occur only in the Nile (Kröpelin, in *ECHC* p254).

2.2.4 Towards 4,500 BCE (i.e. approaching the third pluvial maximum at L. Chad) the zone of sub-Saharan vegetation in W. Egypt and N.W. Sudan extended about 500-600 km further north than at present, i.e. to about 25º N, and to 300-400 km further north at around 3,700 BCE, to about 24º N ; the earlier shift was apparently paralleled by a similar shift in the Central Sahara.[7] Likewise, the northern type of desert vegetation extended southwards to about 26º N at the earlier time, and to about 28º N at the later time, in contrast to its present southerly limit of about 30ºN, i.e. a further 400 and 200 km south respectively.[8] The southern and northern extensions 'most likely touched…somewhere in central Egypt…between 7 K and 6.5 K bp' (Neumann, op. cit. p164). But these data, suggesting that the climate was ameliorating between the earlier dates (5,000 to 4,500 BCE) and drying at the later date (3,700 BCE), can only with the exercise of imagination be reconciled with the generalised date of 3900 BCE conjectured above for the pluvial maximum.

2.2.5 The northerly extension of sub-Saharan vegetation was accompanied by an equivalent movement of sub-Saharan fauna. Thus for example bones of elephant, rhinoceros and hippopotamus have been found in W. Howar, dating from about 4,300 to 1,800 BCE (Kröpelin, *ECHC* p254), and a single giraffe bone was found at Abu Ballas (24ºN, 28ºE), dated to around 6,200 BCE;[9] the latter would of course be associated with the pluvial period before 5,000 BCE, assuming it originates at the site where it was found. 'Site 29', a little south of the third cataract, displays rock-art images of elephants, lions and giraffes, again dating from c.4,000 BCE

2.3 Arabia

2.3.1 Although the evidence is not unambiguous, the patterns of climate change in Arabia are in some respects similar to those of the Sahara, at least as far as N. Arabia is concerned. For example the an-

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[6] S. Kröpelin, 'The Gilf Kebir and Lower Wadi Howar : contrasting Early and Mid-Holocene environments in the Eastern Sahara' (*ECHC* p252).

[7] K. Neumann, 'Holocene Vegetation of the Eastern Sahara' (*ECHC* p163).

[8] Figs. 2 and 3, Neumann, in *ECHC* p165/6. For key see Fig. 1 (*ECHC* p154).

[9] R. Kuper, 'Sahel in Egypt, environmental change and cultural development in the Abu Ballas area, Libyan desert' (*ECHC* p215).

Nafūd lakes (latitude 26° - 28°) provide evidence for two pluvial periods, 6,000 - 5,200 BCE and 3,000 - 2,000 BCE (*EHPA* p256).[10] The former dates are a reasonably good fit with the Saharan evidence but the latter less so. As in the Sahara there is evidence for occasional overlapping of the southerly and Mediterranean climatic regimes (*EHPA* p255), but like the Sahara the extensive land area of Arabia must have accommodated many local variations in climate, with attendant consequences for human occupation and settlement.

2.3.2 The more southerly regions of Arabia were (and are) affected by the south-westerly Indian Ocean Summer Monsoon and, in contrast to the Sahara, provide evidence for a single, longer, moist period rather than the more cyclical pattern in the Sahara and N' Arabia. For example the pluvial period in the Mundafan basin at the S.W. edge of the Rubʿu l-Kālī extended from about 6,200 to 4,000 BCE with a maximum at c.5,750 BCE, and lakes in the Rubʿu l-Kālī proper suggest a pluvial period extending from about 8,000 to 4,000 BCE.[11]

3. Evidence for Ancient Human Populations

3.1 The Sahara

3.1.1 During the latter part of the ice age, from c.18,000 BCE and up to the end of the Younger Dryas (c.9,500 BCE), N.W. Africa was populated by people genetically related to groups in Iberia (the Iberomaurusian culture), who appear to have spread as far east as Cyrenaica.f[12] In N.W. Africa the Iberomaurusian was followed by the mesolithic Capsian culture, centred in an area to the west of the Gulf of Gabès and persisting until c.5,000 BCE. Opinion differs as to whether the Capsian directly succeeded the Iberomaurusian or reflects migration along the Mediterranean coast from the east.[13]

3.1.2 There can be little doubt that the Ethiopian highlands were also inhabited during late glacial times, particularly as mtDNA haplogroup L3 appears to originate in N.E. Africa (Section 4 below). By

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[10] N. Boivin, R. Blench, D. Fuller in M.D. Petrgalia and J.I. Rose (eds) *The Evolution of Human Populations in Arabia [EHPA]* p256,

[11] For Lake Mundafan see Figure 3 on p256 of *EHPA* and for the Rubʿu l-Kālī lakes see Figure 2 on p55 (T.J. Wilkinson, 'Environment and Long-Term Polulation Trends in Southwest Arabia').

[12] See for example Figure 3.4 in S. Oppenheimer, *The Origins of the British [OB]*.

[13] On the Capsian culture see A.R. Willcox, *The Rock Art of Africa [RAAf]* p22 and also map 6.2 on p30.

extension, S.W. Arabia was also almost certainly occupied at this time,[14] a link which would have been facilitated by the then substantially lower sea levels.[15]

3.1.3 The Bölling-Ollerød warm period notwithstanding, on the evidence of the varying levels of Lake Chad the Central Sahara would appear to have been largely unoccupied from the last glacial maximum until towards the end of the Younger Dryas, ie. from c.18,000 to c.9,500 BCE. The earliest evidence for substantial post-glacial human occupation of the area is that of hunter/gatherer sites characterised by microliths. Then, from about 7,000 BCE (approximately coinciding with the second L. Chad pluvial maximum), a culture associated with 'dotted wavy-line' (DWL) pottery appeared in the Sahara. The evidence from DNA (Section 4 below) and archaeology[16] suggest that the DWL culture may have spread down the Ethiopian river valleys to the Nile, and then west through the Central Sahara, perhaps via wadis Howar and el-Malik, and was therefore essentially African in character.[17] The DWL culture is roughly contemporary with Pre-Pottery Neolithic A (PPNA) in the Levant and it is thus conceivable that there may also have been a degree of PPNA migration from the Levant into N. Africa at the same time.[18]

3.1.4 There seems to be general agreement that sheep were domesticated in the upland area extending from Anatolia in the west to the Zagros mountains in the east, and were probably first

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[14] '…it is becoming evident that there was significant occupation in southwest Arabia during the Palaeolithic, and therefore its location opposite the Horn of Africa makes a compelling case for a migration pathway between Africa and Eurasia' (Wilkinson, *EHPA* p61).

[15] See H.E. de Wit, 'The Evaluation of the Eastern Nile Delta as a factor in the development of human culture' (*ECHC* p311) : 'During the glacial maximum, sea level was over 100 m lower than at present'. See also map 4.1 D on p19 of Wilcox, *RAAf* and the text on p23.

[16] The archaeological evidence is not without problems. See §5.2 below.

[17] See the map on *TAA* p94/5. The apparent distributions of hunter gatherers and DWL pottery coincide approximately with the distribution of rock art in the Central Sahara, but this may be due to chance.

[18] Perhaps also interacting with the Capsian culture ; see map 6.2 in Willcox, *RAAf* (p30) and Figure 3.4 in Oppenheimer, *OB*. Pre-pastoral migration from the Levant into Africa at this time is to some extent supported by Saharan rock art of the period, where human figures are apparently shown naked or only lightly clothed and seem to be similar to those found on rock art in Arabia from about the same time ; for Arabia see for example M.A. Nadeem, *The Rock Art of Arabia [RAA]* p311-13).

introduced into N. Africa during the 6th millennium BCE, i.e. before the c.5,000 BCE pluvial minimum.[19] Certainly, after 5,000 BCE, sheep pastoralism spread up the Nile Valley into Nubia, on to Ethiopia, and also across the Central Sahara (*TAA* p119).

3.1.5 With regard to cattle herding, DNA evidence suggests that African and western Asian cattle last shared a common ancestor at c.20,000 BCE.[20] Thus as the Sahara would have offered suitable grazing for cattle both before and after the c.5,000 BCE pluvial millennium, and would have been north of the tsetse fly belt (map 6.3A at Wilcox, *RAAf* p36), it is probable that cattle were domesticated independently in northern Africa (by c.6,000 BCE) and in western Asia (*EHPA* p247). Along with sheep (and goats), cattle herding is conjectured then to have spread more generally through the Sahara and adjacent areas after 5,000 BCE.[21]

3.1.6 Although the varying C-14 dates make generalisation rather difficult, it appears that with the onset of the c.5,000 BCE pluvial minimum people gradually retreated south from the Sahara, along with sub-Saharan flora and fauna - and presumably also retreated northwards towards the Mediterranean. It also seems inevitable that there would have been at least a partial retreat down the major river valleys of N.E. Africa such as W. Howar and W. al-Malik,[22] for the middle Nile valley, north of Khartoum, provides evidence that 'a strong influence from the Sahara developed in the Sudan during the 7th millennium BP'.[23]

3.1.7 The subsequent pluvial maximum at c.4000 BCE approximates to the major period of

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[19] There is apparently evidence for goats and sheep at Nabta Playa at c.6,100 BCE.

[20] D.G. Bradley et. al., *Mitochondrial diversity and the origins of African and European cattle*.

[21] With the route proposed for the diffusion of pastoralism through northern Africa at *TAA* p119 compare the proposal in Maps 6.3A/B at *RAAf* p36/7.

[22] The reduction in precipitation could suggest that the rivers flowing through these wadis would gradually have failed to reach the Nile, rather like the modern-day Gash river in Ethiopia/Sudan, although a different analysis suggests that the rivers would also have been supplied from more local (downstream) sources (Kröpelin, in *ECHC* p255). Thus it is possible that the populations in and adjacent to W. Hawar and W. al-Malik would have retreated both south west, towards the sources of the rivers, and north east towards the Nile.

[23] I. Caneva, 'Pre-pastoral Middle Nile : local developments and Saharan contacts' (*ECHC* p410). This claim is based on a distinction between wavy line and dotted wavy line pottery, the former being abundant in the Nile Valley in the 5th millennium BCE but absent from the Sahara, and the latter occurring in the Sahara 'about two millennia before the extensive occurrence of this decoration in the Sudan' (ibid).

occupation of the Sahara by Middle Neolithic cultures. Various types of evidence, particularly rock art, suggest that many if not all of these people were pastoralists, nomadic in varying degree, and had again for the most part migrated northwards. At Uan Muhuggiag in S.W. Libya, for example, there is evidence for cattle, sheep and goats between c.4,000 and 3,300 BCE[24] and for cattle in W. Howar at c.3,300 BCE (Kröpelin, in *ECHC* p255).

3.1.8 A **particularly interesting feature of the rock art of Tassili n'Ajjer in S.E. Algeria is that two distinct groups of pastoralists are portrayed, one with apparently white bodies and 'Mediterranean' physical characteristics and the other with black bodies and more 'African' characteristics.[25] Given the evidence for the introduction of sheep pastoralism into Africa post-5,000 BCE and assuming the two groups to be 'northerners' and 'southerners' respectively, it is tempting to suggest that the art incorporating 'Mediterranean' figures post-dates that with 'African' figures and perhaps represents migrants from S.W. Asia. But the location of this site could also suggest that the 'Mediterranean' figures may be Capsian (map 6.2 on *RAAf* p30), and do not originate in migration from the Levant.[26]**

3.1.9 As indicated in Table 1 the c.4,000 BCE pluvial maximum at L. Chad was followed by a further minimum at c.2,000 BCE. The archaeological evidence again suggests a gradual but substantial depopulation of the western desert of Egypt and of N.W. Sudan, beginning at c.3,000 BCE, although certain environmentally more-favoured areas, such as W. Howar, seem to have been occupied almost up to the pluvial minimum (Kröpelin, in *ECHC* p255). There is evidence for new cultures in the Upper Nile valley from c.3,000 BCE onwards, for example at Kerma south of the 3rd cataract,[27] along the valley of the Gash river in N.E. Sudan,[28] and of course the well-known Naqāda cultures of Upper Egypt (on which see below at §7.1). Kerma is interesting in that the site offers evidence for cereal production in addition to the herding of cattle, sheep and goats, and in this respect is perhaps rather more typical of the Nile and other river valley sites.

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[24] **See K. Wesylikowa, 'Plant macrofossils from the archaeological sites of Uan Muhuggiag and Ti-n-Torha, S.W. Libya' (*ECHC* p26).**

[25] **A.B. Smith, 'New approaches to Saharan rock art of the Bovidian period' (*ECHC* p77).**

[26] **Willcox (*RAAf* p44) notes the suggestion that the 'African' figures display a typically 'Hottentot' physique.**

[27] **L. Choix and A. Grant, 'Palaeoenvironment and economy at Kerma, N. Sudan, during the 3rd millennium B.C.' (*ECHC* p399ff).**

[28] **R. Fattovich, 'The Gash Group of the Eastern Sudan : an outline' (*ECHC* p439ff).**

3.2 Arabia

3.2.1 The Levant provides evidence for occupation from at least c.18,000 BCE (the Kebaran complex), followed in the Bölling-Allerød period (from c.12,500 BCE) by the Natufian culture, which persisted up to the end of the Younger Dryas. From the beginning of the Holocene, c.9,500 BCE, the Natufian was succeeded by Pre-Pottery Neolithic A (PPNA), during which there is evidence for early arable farming and herding.

3.2.2 For some sites at least the rock art of northern Arabia suggests long periods of occupation by a succession of cultures, beginning in the Upper Palaeolithic, perhaps between c.9,000 and 7,000 BCE.[29] This was followed by an Early (Pre-Pottery) Neolithic period, dated to c.7,000 – 5,000 BCE, and apparently comparable to Pre-Pottery Neolithic B (PPNB) in the Levant (*RAA* p291). As in the Sahara, the common portrayal of cattle in Arabian rock art of the period implies doemstication and a moist climate. Evidence of a different kind is the 'kites' common in parts of the Syrian and Jordanian deserts, attested also at Jubbah in N. Arabia (*RAA* p129) ; on the rather slender evidence of flints at least some of these may date from the PPNB.[30]

3.2.2 In Souh Arabia, the Early Holocene evidence suggests 'a sharp increase (in population) - perhaps implying immigration as well as natural increase'[31] That there was contact with N.E. Africa at this time is confirmed, inter alia, by N.E. African obsidian (precise source unknown) (*EHPA* p72). There appears to be little evidence for Early Neolithic rock art in Southern Arabia, certainly insofar as human representation is concerned.[32] After c.6,000 BCE rock art and faunal remains provide evidence for the herding of cattle, along with some sheep and goats, the latter two, at least, introduced from the Levant ; many of the cattle depictions are of piebald animals, evidence of domestication.[33]

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[29] Nadeem, *RAA* p34. Different investigators have proposed a range of dates for these cultures. The dates cited are the earliest proposed ; the variants are up to 15% later than those given here.

[30] S.W. Helms, *Jawa, Lost City of the Black Desert*, Figs 19 and 27. and also p246. For Jubbah see *RAA* p129.

[31] Ridl et al in *EHPA* p71.

[32] For apparently early neolithic representations of cattle in southern Arabia see Figs. 349 and 365 in *RAA*. With the lack of human figures in the south compare the northern figures in Figs. 152-6.

[33] J. McCorriston and L. Martin (*EHPA* p238). Fully domesticated cattle appear in Africa after c.6,500 BCE, i.e. earlier than in S. Arabia (*EHPA* p247). In contrast to Africa there is no evidence for cattle burials in S. Arabia (*EHPA* p249) although note the ritual structure incorporating cattle skulls at Shi'b Keshiya, dated at the latest to c.4,300 BCE

3.2.3 Archaeological evidence suggests that the Pre-pottery Neolithic in northern Arabia ended with the onset of the dry period postulated to have culminated at c.5,000 BCE, with people presumably retreating into the Fertile Crescent. On the other hand, although there is evidence for desiccation in the Yemen Highlands at c.5,000 BCE (*EHPA* p55), the pluvial period in the Rubʿu l-Kālī and adjacent areas appears to have continued until c.4,000 BCE, so that S.W. Arabia may also have attracted Pre-pottery Neolithic migrants from further north. In contrast, the later 'Pottery Neolithic' is attested in both Northern and Southern Arabia (c.5,000 – 3,500 BCE). But whereas there is evidence for diffusion from the north into at least the central and western regions of Arabia (*RAA* p300), once again the disparity in the styles of rock art makes it difficult to claim that the Southern Arabian Pottery Neolithic originated directly in migration from the north.[34]

3.2.4 Somewhat before c.3,500 BCE, when the northern Arabian climate had again begun to ameliorate, Chalcolithic cultures appear first in north and then in south west Arabia. Chalcolithic rock art is claimed to have been rather more uniform throughout Arabia, although a greater quantity appears to be preserved in the north, which could suggest diffusion from north to south west.[35] From c.2,500 BCE the Chalcolithic in N. Arabia seems to have been succeeded by the Bronze Age, although in Yemen bronze-age agriculture appears from about 3,500 BCE. The crop species in Yemen were mostly Levantine although the associated pottery 'bears generic family resemblances to roughly contemporary wares in N.E. Africa' (*EHPA* p72).[36]

4. DNA Evidence

4.1 On current evidence it seems likely that the DNA of hunter/gatherers migrating from N.E. Africa into the Sahara during the early Holocene (§3.1.3) was predominantly of African Y-chromosome haplogroup E-M35 and mtDNA haplogroup L3f ; a parallel albeit less substantial penetration of N.

(*EHPA* p244). A DNA study might determine whether the Shi'b Keshiya skulls are of African or Asian origin. Compare the cattle skulls accompanying burials at Kerma, in Sudan.

[34] 'Pottery Neolithic' here seems to be defined contrastively for, on the basis of *RAA*, there would appear to be little or no evidence for pottery.

[35] So *RAA* p301, but in fact Chalcolithic art in the north (*RAA* Figs. 25-30) appears to find no obvious parallel in the south.

[36] Depictions of cattle from this time are typically accompanied by tribal markings (*wusūm*) (*EHPA* p239).

Africa by hunter-gatherers from the Levant is also possible at around this time.[37] Haplogroup E-M35 gave rise to three main sub-clades, E-M81, E-M78 and E-M123 such that, with the onset of the subsequent dry period (c.8.750 BCE at Lake Chad), the bearers of E-M81 may have become concentrated primarily in N.W. Africa, those with E-M78 in the Horn of Africa and those with E-M123 in the Nile Valley and the Levant.[38]

4.2 Prominent in the Levant and Arabia, and also in the Nile Valley, is Asian Y-haplogroup J-M267, whose J-M58 sub-clade is a fairly clear marker for many Semitic speakers - albeit less so for Aramaic (Syriac) speakers in Mesopotamia.[39] J-M267 is closely related to and slightly earlier than J-M172, a haplogroup particularly prominent in Iraq and Anatolia and whose overall distribution suggests origin in the Taurus/Zagros mountain region north of the Fertile Crescent.[40] Thus, although the modern distribution of J-M267 would at first sight suggest origin in Arabia, being attested also in the Caucasus (for example among the Chechens) and in Iraq, it is not impossible that J-M267 might similarly originate nearer to Anatolia.

4.3 Leaving aside the Caucasus, the distribution of J-M267 quite closely parallels that of African Y-haplogroup E-M123 and its derivatives (§4.1). Genetic and linguistic interaction between the two groups could then have been the source of some of the similarities between Sigmatic/Semitic and the relevant African language groups, rather than these similarities having originated in some supposed common language based solely in Africa or Asia (compare Section 5 below). Such interaction would most probably have occurred before the c.5,000 BCE pluvial minimum proposed for the Sahara and N. Arabia, and so it may be that with the onset of this pluvial minimum one part of a mixed J-M267/E-M123 population,

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[37] Note for example the evidence for fairly widely attested Y-haplogroup T-M184 (see Wikipedia under *T184*).

[38] It is tempting to associate E-M78 with the dotted wavy-line (DWL) culture (§3.1.3). E-M78 and its sub-clades are also fairly strongly attested in Arabia, having apparently spread into S.W. Arabia from the Horn of Africa. For mtDNA haplogroups in Yemen refer to Figure 2 on p74 of *EHPA*.

[39] Haplogroup J-M267 appears to have been paralleled by clades of mtDNA macrohaplogroup N.

[40] It is impossible to ignore the wide distribution of J-M172 in the context of the Pottery Neolithic, for this haplogroup extends into Europe, Asia and Arabia. Moreover the distribution of J-M172 in the Fertile Cresecent is not dissimilar to that of the Halaf and Ubaid cultures. The presence of E-M78 in Arabia could than be taken to imply mixing with J-M172, but this is unlikely to be related to the history of the 'Afroasiatic' languages as the incidence of J-M172 and its successor clades in Africa is insubstantial, except along the Mediterranaean coast.

perhaps with a preponderence of E-M123 and rather less J-M267, retreated towards the Ethiopian highlands with the remainder, perhaps predominantly J-M267, retreating towards Anatolia.

4.4 But should the foregoing outline be more or less correct note then the Saharan distribution of Y-haplogroup R-V88, characteristic of Chadic speakers and a haplogroup common in Europe and parts of Asia and thus most unlikely to be of African origin. Given its essentially European distribution, an African population with pattern R-V88 could have been linguistically influenced by transitory contact with a J-M267/E-M123 population in the Levant and Egypt prior to the c.5,000 BCE pluvial minimum. However mtDNA haplogroup L3f3, also characteristic of Chadic speakers, is unquestionably N.E. African in origin and is argued to have appeared in the Chad Basin at around 6,000 BCE.[41] Thus this female inheritance could perhaps better account for 'Afroasiatic' characteristics in the Chadic languages, a question further explored in Section 6. Moreover, is it impossible that bearers of R-V88 could have entered Africa via the Mediterranean?

4.5 The subsequent pluvial maximum at c.4,000 BCE approximates to the main period of occupation of the Sahara and Arabia by Middle Neolithic cultures. In Africa this occupation may be reflected by E-V32 (< E-V12), an important sub-clade of haplogroup E-M78 (< E-M35), the latter prominent in the Horn of Africa and the Sudan but less conspicuous in Arabia and the Fertile Crescent. The substantial incidence of E-V32 among 'non-Afroasiatic' as well as 'Afroasiatic' speakers could explain why the Cushitic and Omotic languages share a number of features with the relevant 'non-Afroasiatic' languages.

4.6 Just as E-haplogroup pastoralists are likely to have migrated into the Sahara after c.5,000 BCE, pastoralists with a mixture of J-M267 and E-M123 Y-chromosome DNA may have migrated from the Levant into Central Arabia at around the same time. If so, it is then possible that, in addition to any earlier differences, the J-M267 language(s) of the Arabian pastoralists came to differ from the E-V32 language(s) of certain of the African pastoralists in displaying features characteristic of Sigmatic, in particular the positioning of deriving morphemes before the stem and the addition of augments to biradical stems/roots.

4.7 However, these changes may not necessarily have taken place in Arabia, for triradicalisation of the Sigmatic root system (Section 8 of *MPSVS*) must have begun fairly soon after c.5,000 BCE, in that by

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[41] F. Cruciani et al. 'Human Y chromosome haplogroup R-V88…' ; Černý at al 'Migration of Chadic speaking pastoralists within Africa…'

c.3,000 BCE the essentially Sigmatic Egyptian language is established in the Nile Valley and the historical period has begun in Arabia and the Fertile Crescent, where the relevant languages are not Sigmatic, but Semitic.[42] This argument is supported by the evidence for E-M34, an important sub-clade of E-M123 (< E-M35), which is attested in the Levant and South Arabia (Yemen and Oman), and also to a certain extent in the Cushitic and Omotic language speaking areas. Thus although E-M34 is less prominent among Cushitic and Omotic speakers than E-V32,[43] it may be that the Cushitic and Omotic languages reflect, in some rather complex way, both African (E-V32) and African/Asian (E-M34) influences.

5. Conjectures on the Origin of the 'Afroasiatic' Languages

5.1 Introduction

5.1.1 There are currently two competing hypotheses regarding the origin of the 'Afroasiatic' language family. The first - seemingly favoured by the 'scholarly consensus' - is that Afroasiatic originated in N.E. Africa and was spread into the Levant by Semitic speakers. The principal but essentially simplistic argument in support of this hypothesis appears to be that the number of Afroasiatic languages in Africa much exceeds the number in Asia. The competing conjecture argues that the Afroasiatic languages originated in S.W Asia and subsequently spread into Africa. The evidence typically adduced in support of this position is partly linguistic - the claim that early words for agriculture in Afroasiatic are S.W Asian in origin, [44] but perhaps of equal importance :

1. **The cultivation of barley, a plant native to the Fertile Crescent and Anatolia, is attested in the Nile valley before and after c.5,000 BCE.**
2. **Sheep pastoralism, beginning somewhat before 6,000 BCE in S.W. Asia, became widespread in northern Africa during the middle-neolithic period, after the c.5,000 BCE pluvial minimum, albeit having perhaps begun somewhat earlier, at around 5,500 BCE.[45]**

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[42] Of course, if triradicalisation took place separately in Egyptian and Semitic, which is not impossible, the dates for Egyptian and Semitic triradicalisation could be decoupled, which would permit a later date for the introduction of root augments.

[43] For example Oromo E-V32 = 40.68% and E-M34 = 8.0%. Compare however Beta-Israel E-V32 = 9.09% and E-M34 = 13.6%.

[44] See for example A. Militarev, *Proto-Afrasian Lexicon Confirming West Asian Homeland : Pastoralism*.

[45] Map on page 119 of *TAA*, which proposes a (not too convincing) route for the spread of sheep. Domesticated sheep

5.2 Origin in Africa

5.2.1 The Cushitic languages are spoken from about latitude 22º N (Beḍawiē) to south of the equator in Tanzania (Iraq^{w} etc), and from about 34º E to the Red Sea.[46] The Omotic languages have a more restricted distribution, being largely confined to the Omo valley and its watershed, along with northern Kenya, ranging between 4º and 8º N and 36º to 38º E.[47] Chadic languages are spoken between about latitudes 5º and 15ºN and extend from longitude 0º to 25º E. Thus the area over which the Cushitic, Omotic and Chadic languages are spoken is considerably greater than that of the Levant, the Fertile Crescent and N. Arabia. This has encouraged 'out of Africa' supporters to argue that, in addition to the number of languages involved, the originally more restricted distribution of the Semitic languages must result from their spreading out of N.E. Africa into the Fertile Crescent and Arabia, rather than the reverse.[48]

5.2.2 Assume for the moment the general validity of the Afroasiatic hypothesis. If the Afroasiatic-speaking peoples originated in the Horn of Africa and N.E. Africa more generally, they would very likely have migrated north and north west during the pluvial periods before and after c.5,000 BCE, as is at least partly supported by the DNA evidence (Section 4). The obvious initial route would have been down and adjacent to the valleys of the Atbara, Gash and Blue Nile rivers, and perhaps also the Sobat tributary of the White Nile. One branch could then have passed down the Nile Valley into Sinai and the Levant to form the Sigmatic-speaking ancestors of the Semitic peoples, and a further branch could have trended west to form the ancestors of the Chadic-speaking peoples. The Afroasiatic ancestors of Omotic and Cushitic speakers would for the moment have remained more or less in situ.

5.2.3 But the DNA evidence (§4.1) cannot immediately be reconciled with archaeology, albeit that early population movements were almost certainly more complex than either DNA or archaeology is currently able to portray accurately, For as noted earlier, the characteristic pottery of the central Sahara prior to 5,000 BCE is dotted wavy line (DWL) (Caneva, in *ECHC* p410), but the earliest pottery in the

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are assumed to have spread into Arabia at around the same time.

[46] Map on p278 of M.L. Bender (ed), *The Non-Semitic Languages of Ethiopia [NSLE]*.

[47] For details of the distribution of Cushitic and Omotic languages in Ethiopia see the map in Bender et al, *Language in Ethiopia [LIE]* 1976.

[48] See for example Lipiński, *OCG* §3.3 (p44).

upper reaches of the Atbara river valley (dated to c.6,200 BCE) displays parallels with the 'Khartoum mesolithic',[49] the pottery of the Khartoum region and the Atbara basin at that time, which is of the 'wavy-line' type (ibid) rather than dotted wavy line. The upper Atbara pottery was followed by the 'Saroba' phase (c.5,000 BCE onwards), a pottery which again resembles the Khartoum mesolithic 'although wavy-line and dotted wavy-line motifs are absent' (Marks, in *ECHC* p434).[50] Thus the absence of DWL pottery from N.E. Africa might invite the conclusion that there was no substantial migration of ceramic-using peoples out of Ethiopia into the Sahara either before or after 5,000 BCE. But that said, is there any reason in principle why earlier wavy-line pottery should not have evolved into the DWL style attested in the Sahara?

5.2.4 But if N.E. Africa was indeed the original locus of the Afroasiatic languages, in addition to passing down the Nile valley and across the Sinai peninsula, Afroasiatic speakers could equally well have migrated into S. Arabia and then moved northwards into central Arabia,.

5.2.5 A variant of the 'out of Africa' hypothesis proposes the Sahel as the original locus of the common Afroasiatic language. This would suggest subsequent movement north and then east along the Mediterranean coast, south east towards N.E. Africa and also down the river valleys from the Sahara to the Nile ; but such a conjecture is (even more) difficult to reconcile with the DNA evidence. A third and on the face of it geographically more plausible conjecture proposes that the Afroasiatic peoples originated along the Mediterranean coast. This is simpler in that it 'merely' requires movement south into the Sahara and N.E. Africa, and through the Nile delta into the Levant, but appears to be little supported by archaeological evidence and not at all by DNA.

5.2.6 Whether the Sahel, N.E. Africa or the Mediterranean coast is taken to be the Afroasiatic homeland, the 'out of Africa' hypothesis appears to require the Afroasiatic language family to have undergone a major split somewhere around 5,000 BCE, non-Sigmatic speakers becoming concentrated in the areas where the Chadic, Cushitic and Omotic languages are currently spoken, and Sigmatic speakers

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[49] A.E. Marks, 'Climatic and cultural changes in the Southern Atbai, Sudan from the 5th through the 3rd millennium B.C.' (*ECHC* p433). Dates in this paper are expressed as 'BP' but it would appear from Fig. 2 on p424 that they should be 'BCE' and have been adjusted accordingly.

[50] DWL pottery indeed appears in the latter region from 5,000 BCE onwards but this could be a consequence of migration out of the Sahara during the period culimnating in the c.5,000 BCE pluvial minimum.

moving into or remaining in N. Africa, such that the 'locus' of the latter could originally have approximated to the area historically occupied by Berber speakers. Semites and Egyptians would then have split from (proto)-Berber speakers and migrated into the Nile Valley, the Levant and the Fertile Crescent from c.3,000 BCE onwards.[51]

5.2.7 The 'out of Africa' hypothesis thus offers a potential explanation for the presence of Berbers in N. Africa, which is something of a problem for an 'out of Asia' hypothesis. It could also account for the conjectured parallels between Bantu and Afroasiatic languages, albeit Bantu - 'Afroasiatic' parallels are better explained as originating in a common language spoken at some time by various peoples in the Sahel sharing similar E-series Y-haplogroup DNA and L-series mitochondrial DNA.

5.2.8 The out-of-Africa hypothesis also requires Egyptian to have become distinct from the other Sigmatic languages before Semitic speakers moved into the Levant. But the substantial differences between Egyptian and the Semitic languages (for instance verb conjugations and the clear African component in the Egyptian lexicon) suggest that such a split must have occurred well before 3,300 BCE, for by that time Egyptian would more or less have achieved the form attested in the oldest texts. But if the Sigmatic 'dialects' maintained some degree of contact with each other after splitting from the non-Sigmatic languages, perhaps rather as the Berber dialects do today, the 'out of Africa' hypothesis offers no proposal for how and when the split between Egyptian and Semitic might have come about.

5.2.9 Furthermore, any version of the 'out of Africa' hypothesis poses problems for the pattern of Semitic language spread in S.W. Asia. Lipiński for example (*OCG* p45), suggests that Akkadian speakers were the first Semites to cross into Asia, in 3,000 BCE, followed by the Amorites in 2,500 BCE. But he is rather more circumspect with regard to the South Semites, saying merely that they 'would seem to have reached….Yemen and Haḍramaut after 2,000 BC'. But of course c.2,000 BCE is a pluvial minimum, both in Africa and Arabia, and so, although migration down coastal Hijaz at that time would not have been impossible it seems much more likely that pastoralists would have been migrating *out* of S.W. Asia and Central Arabia at this time rather than into.

5.3 Origin in S. W. Asia

5.3.1 Although the spread of agriculture and sheep pastoralism into Africa does not entail a corresponding movement of people, suppose that, for exploring the 'out of Asia' hypothesis, pastoralists

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[51] **Lipiński, *OCG* §3.3, p45.**

speaking 'non-Sigmatic' variants of Afroasiatic (i.e. the ancestor(s) of the Cushitic, Omotic and Chadic languages) migrated from the Levant into the Nile Valley and N.E. Africa, perhaps somewhat before but more certainly after the c.5,000 BCE pluvial minimum. These people would presumably have ascended the Nile Valley and would also have ranged over regions west of the Nile where there would have been ample pasture before and after the pluvial minimum.

5.3.2 Among other routes, archaeology suggests that the pastoralists would have passed from the Nile Valley into then river valleys such as W. Howar and W. el-Malik. Aside from being obvious routes into the central Sahara, these valleys are of interest in that their upper (i.e. westernmost) reaches border on the eastern limits of the Chadic language area. It is also probable that pastoralists would have passed along the N. African coast and then down into the central Sahara, again towards or into the current Chadic language-speaking area. These conjectures are to some extent supported by the presence of Y-haplogroup R-V88 among Chadic speakers in Africa, although of course R-V88 is a doubtful marker for Afroasiatic speakers (see §4.4 above).

5.3.3 There is general agreement among supporters of the Afroasiatic hypothesis that the Chadic languages are 'the most distant from the other branches'.[52] Given the evidence for the beginnings of pastoralism in the Sahara from c.5,500 BCE, this linguistic distance would be explicable if proto-Chadic speakers had been among the earliest migrants into the Sahara, before the c.5,000 BCE pluvial minimum. The differences and similarities (such as they are) between Chadic, Cushitic and Omotic languages could then be accounted for by proposing that proto-Cushitic and/or Omotic speakers migrated into N. E. Africa early in the post-5,000 BCE pluvial period, leaving Sigmatic speakers for the time being in the Levant and N. Arabia. But if a 'punctuated equilibrium' approach to language change is preferred, there is no reason (other than DNA) why, in the context of the 'out of Asia' hypothesis, proto-Chadic, proto-Cushitic and proto-Omotic speakers could not have migrated into Africa at about the same time and their languages then have been subject to differing 'pressures' from the African languages with which they came into contact, such that proto-Chadic changed more radically and more rapidly than the latter two.[53]

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[52] Lipiński, *OCG* §2.17.

[53] 'Punctuated equilibrium', a term borrowed from palaeontology, argues that languages remain relatively stable (allowance being made for intrinsic ill-definedness) until they are subject to sustained sociological and/or environmental pressure.

5.3.4 In the context of the foregoing it has been suggested that, after 5,000 BCE, early Cushitic speakers migrated south into Ethiopia through the region of the rivers Atbara and Gash.[54] However it is difficult if not impossible to adduce archaeology in support of any particular date for such a migration, for a sequence of cultures has been identified in the southern Atbai region of the Sudan, between the Atbara and Gash rivers, from 5,000 BCE onward.[55] Of these, the Middle Kassala (Gash) phase, albeit rather late (2,750-1,500 BCE), with its evidence for pastoralism is a possible fit (Fattovich in *ECHC* p443), particularly when taken in conjunction with other evidence suggesting that incomers spread from the Gash delta 'to the east and north, as far as the Red Sea coast, occupying the whole northern Ethiopian-Sudanese borderland' (*ECHC* p445).

5.3.5 Although this conjecture is difficult if not impossible to reconcile with the early post-5,000 BCE date proposed for the initial migration of Afroasiatic speakers into N.E. Africa, a later date is supported by pottery parallels between Kerma in the Nile Valley and the Gash site at Mahal Teglinos. The former site is close to the point where the W. Howar and W. el-Malik meet the Nile and, as noted above, these wadis were relatively heavily populated after 5,000 BCE. Thus as the climate deteriorated it is likely that, somewhat before 3,000 BCE, people living in or adjacent to these valleys would have retreated to the Nile Valley and it may be that some at least would then have migrated further south, into Sudan and Ethiopia. But not the least difficulty with this conjecture is that W. Howar at this period is notable for its numerous tumuli - a phenomenon which also occurs in the Levant but appears to be absent from the Atbai region.[56]

5.3.6 If proto-Cushitic speakers spread into N.E. Africa from the Nile Valley, whether earlier or later, what implications would this have for the pre-history of the Omotic-speaking peoples? The interrelationships among the Omotic languages and their relationship with the adjacent Cushitic and Nilotic languages present many problems.[57] However, assuming for the moment the essential

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[54] C. Ehret, *Cushitic Prehistory* (*NSLE* p86). This date is based on a glottochronological analysis of the Cushitic dialect groups, and is only as sound as the assumptions made by glottochronologists about the natural rate of language change.

[55] See Fig. 2 at *ECHC* p424.

[56] Kröpelin *(ECHC* p255). Note also the reference to 'C-group peoples' (loc cit) and 'C-group pottery' in Fattovich (*ECHC* p441).

[57] H.C. Fleming, 'Omotic Overview' (*NSLE* p299ff) and Bender at al in *LIE* p46ff. Note that Lipiński (*OCG* §2.9) classes Omotic as a Cushitic language group but includes its bibliography (*ibid.* p649) with that of the Chadic

independence of Omotic as a family in Afroasiatic it could be understood as a particularly archaic variant,[58] in which case an obvious conclusion might be that Omotic speakers preceded Cushitic speakers into Ethiopia and may subsequently have been largely absorbed and/or displaced by the latter. But alternatively, given that the Omotic verbal systems share some features with those of mainstream Cushitic languages (Section 6 passim) it could be that Omotic merely diverged early from Cushitic and was perhaps strongly influenced by adjacent non-Afroasiatic languages, rather than being an entirely independent language group.

5.3.7 It will be recalled (§2.2 above) that the pattern of moist and dry periods in northern Arabia broadly matches that of the Sahara. Thus, as already noted, the c.5,000 BCE minimum would presumably have caused the retreat of hunter-gatherers and early pastoralists from the dryer regions into better-watered areas, towards Anatolia but also into S.W. Arabia. Then, given the close proximity of the latter to the Horn of Africa it is equally possible, if not more likely, that early Afroasiatic speakers could have migrated directly from S.W. Arabia to N.E Africa, in addition to, or instead of, through the Nile valley.

5.4 A Scholarly Illusion?

5.4.1 Although historical DNA studies are a young, albeit rapidly developing science, and the data currently available is for present purposes somewhat patchy, it should be clear from the discussion above and in Section 4 that, quite apart from their internal inconsistencies, any variant of the 'out of Africa' or 'out of Asia' hypothesis is difficult to reconcile with the DNA evidence. For both hypotheses ultimately require the Sigmatic (Y-haplogroup J-series) and non-Sigmatic (Y-haplogroup E-series) peoples to at some point have shared a common, comparatively recent, ancestry, whether in northern Africa or S.W. Asia, an ancestry difficult if not impossible to infer from the DNA patterns exhibited by the peoples speaking Afroasiatic languages. Thus it may be that in the final analysis a common Afroasiatic homeland could be proposed only if the language spoken by some sub-clade of Y-haplogroup J- or E- had mostly or entirely replaced the language of the others.

5.4.2 Alternatively, on the basis of DNA a possble hypothesis is that the languages of a subset of J-series and E series peoples came into contact in the region of the Nile Valley, the Levant and/or N.W.

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languages. See also section §6 below.

[58] For example in its lack (loss?) of morphological markers of gender. See the summary of Omotic language characteristics in *LIE* p35ff.

Arabia somewhat before 5,000 BCE (see above at §4.3), such that each language in varying degree influenced the grammatical structure and lexicon of the other.

5.4.3 The inference that there is unlikely to have been a common Afroasiatic language thus invites closer consideration of the similarities and differences between the grammatical categories of Sigmatic (Egyptian, Berber, Semitic) and non-Sigmatic (Cushitic, Omotic, Chadic). For certain categories the differences are self-evident and are not discussed further, an important example being stem augmentation, a major feature of the Sigmatic languages (*BOSTRS* passim) but which has no serious parallel in the non-Sigmatic languages, despite the best efforts of Afroasiaticists to argue to the contrary. In what follows the differences between the two groups are explored for selected grammatical categories where the facts are less obvious.

6. Selected 'Afroasiatic' Grammatical Categories

6.1 Derived Stems

6.1.1 The presence of postposed *s*-based and *t*-based deriving morphemes in the non-Sigmatic languages and their (apparent) absence from the Sigmatic languages suggests that they may be an original non-Sigmatic (African) feature, a conjecture supported by the fact that such morphemes also occur in the Bantu languages (Lipiński, *OCG* §1.4) and in Nubian (at least) among the Nilo-Saharan languages.[59] These correspondences could be related to the prominence in W. Africa of mtDNA haplogroups L3e and L3f (compare §4.4 above) and Y-haplogroup E-M75, the former pair, at least, being taken to originate in N.E. Africa.[60]

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[59] The Nubian evidence comprises the stems termed II (*tog-ós*) and III (*tog-éd*) by L. Reinisch, *Die Nuba-sprache*, §165ff, although their functions are no longer the original 'causative' and 'reflexive/passive'. However, these morphemes seem not to be typical of the Nilo-Saharan family and may perhaps result from contact with some E-series language.

[60] T.W. Thacker *The Relationship of the Semitic and Egyptian Verbal Systems [RSEVS]*, p314, speculates that *tw* in the Egyptian passive *śḏm.tw.f* form could be related to the Semitic *t*-based deriving morpheme but is at a loss to account for the prefixing nature of the latter as against suffixing *tw*. But the *śḏm.tw.f* form would be more intelligible if *tw* were a reflex of a postposed African *t*-based deriving morpheme, which could then also account for the absence of a prefixing *t*-based deriving morpheme in Egyptian. Note also that the *śḏm.n.tw.f* form equivalent to the passive *śḏm.tw.f* is uncommon (*RSEVS* p313, A. Gardiner, *Egyptian Grammar [EG]* §412, p328) and in Old Egyptian the passive morpheme is written *ti* or simply *t* (*RSEVS* p314). Compare the functionally more elusive *śḏm.t.f* form (*EG* §39 §401ff,

6.1.2 Equivalent deriving morphemes are of course common in the Sigmatic languages but (at least as currently analysed) always precede their root or stem, in contrast to the situation in the non-Sigmatic languages.[61] Given the wide distribution of postposed deriving morphemes in African languages it is not obvious why the equivalent Sigmatic morphemes should precede rather than follow their stem, unless the prominence of an *n*-based prefixed augment in Sigmatic served to 'attract' the *s*- and *t*-based morphemes.[62]

6.2 Personal Pronouns

6.2.1 Introduction

6.2.1.1 This section compares the personal pronouns attested in the various 'Afroasiatic' languages and focuses on the following categories :

Independent Personal Pronouns (IPP)
Suffixed Verb Subject Pronouns (SVSP)
Suffixed Verb Object Pronouns (SVOP)
Suffixed Possessive Pronouns (SPP)

Subject pronouns prefixed to verbs are not considered for, following on §4.1 of *MPSVS*, prefixing verb forms in non-Sigmatic languages (other than Chadic), for example the Beḍawie G_P forms (*BdSL* §2.2), are argued to be innovations of Semitic origin in the languages in which they occur.[63]

6.2.2 1st Singular

6.2.2.1 Perhaps fundamental to understanding the history of 'Afroasiatic' are the 1st singular (1s) pronouns. Sigmatic 1s IPPs are instanced by Egyptian *ỉnk*, Akkadian *anāku* and Hebrew *'anōkī*, together with apparently related forms in Berber, for example Ait Hasan (Tamazight) *nkk-in* and Tuareg *nk* (*BeSL*

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p316).

[61] Deriving morpheme *n* (or *m*) appears to be confined to the Sigmatic languages and to those 'Cushitic' languages (Saho / 'Afar and Beḍawie) argued in *BdSL* to be composite Semitic and Cushitic. Note however the Oromo postposed morpheme *-am* (*NSLE* p196)

[62] For Sigmatic augments see *BOSTRS passim* and *MPSVS* Section 3.2. Suffixed sibilant augments with apparent 'causative' sense are not uncommon (*BOSTRS* §7.2), and indeed have significant incidence in Egyptian, although the latter may be evidence for the non-Sigmatic component in that language. There is also a degree of evidence for a dental suffixed augment with passive/reflexive sense in Semitic as well as Egyptian (*BOSTRS* §7.6).

[63] Chadic prefixed pronouns are taken to be related to the associated IPPs. Hayward, 'Afroasiatic' §4.3.3 (*ALAI* p90).

§8.1 Table 7).[64] In later versions of the Semitic languages these longer forms tend to be replaced by shorter forms, of which Arabic *'ana* and Hebrew *'anī* are typical.

6.2.2.2 On the evidence of the various Cushitic language groups the common Cushitic 1st singular IPP would appear to have been **ani* or similar,[65] which invites the conjecture that this form might be, or at least descend from, an original E-series morpheme; compare Hausa *nu*.[66] If so, could it be that the longer Sigmatic forms originate in composite **'ana-aku* or similar, comprising non-Sigmatic morpheme **ana* and a Sigmatic morpheme **aku*, prompted by the intermingling of J- and E-series populations as conjectured in §4.3 above?

6.2.2.3 In arguing for Omotic as a member of the Afroasiatic family Afroasiaticists face the problem of the *t* vs *n* contrast typical of 1s and 2s independent pronoun morphemes in the N. Omotic languages, for example Kefa 1s *ta* and 2s *ne*, as compared with the *n* vs *t* contrast typical of the Cushitic languages, for example Saho 1s *anú* vs 2s *atú*.[67] It may be that at some point the morpheme pair in one or other language family underwent semantic reversal. But this and similar difficulties are perhaps better resolved by proposing that Omotic and Cushitic, while descending from a common original, have each undergone individual long-term historical development and been differently influenced by neighbouring cultures and languages.[68] Such an analysis would admittedly have the not entirely satisfactory consequence that any non-Sigmatic contribution to the Sigmatic 1s forms would in essence have been proto-Cushitic, but as was outlined in Section 4 this is by no means out of the question.

6.2.2.4 The conjecture that **aku* or similar was the original Sigmatic 1s morpheme finds support in Sigmatic G_S (suffixed) verb conjugations with a *k*-based 1s morpheme, for example *–kwi* in the Egyptian old perfective and *–aku* in the Akkadian permansive, along with similar morphemes in MSA and

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[64] Similar forms also attested in Ugaritic, the Ya'udi dialect of Aramaic, on the Moabite stone, and in the Amarna tablets. In the latter case the forms may of course be Akkadian rather than Canaanite.

[65] Examples are Beḍawiēt *ane*, Somali and Rendille *ani*, Oromo and HEC *an(i)*, Saho *anu*, Bilen *'an*. It is not impossible that certain Lowland East Cushitic forms are of Semitic origin. Note also Nubian *ai* (Reinsich, *NS* §141).

[66] Other Chadic forms not accessed.

[67] N. Omotic Dizi has 1s *yinu* and 2s *yeta* and 1s vs 2s verb subject pronouns *–no* and *–to*, which are obviously closer to the Cushitic forms - although do they simply result from contact with neighbouring Cushitic languages?

[68] For a critique of lexical evidence for the concept of Omotic as an Afroasiatic language see Theil, *Is Omotic Afroasiatic?* (undated, accessed via Wikipedia).

Ethiosemitic G_S forms ; compare also *–eg* (< *-ek?) in certain Berber G_S forms (*BeSL* Section 4). This line of reasoning is somewhat weakened by Semitic G_S forms with **-tu* as their 1s morpheme (Arabic, Aramaic, etc.), although these could be explained as an innovation by analogy with the associated 2s morphemes *–ta/ti*, on which see below at §6.2.3.3.**

6.2.2.5 The G_S form 1s pronoun in Lowland East Cushitic is always a vowel, perhaps originally *-i* vs *-a* to distinguish between G_{SA} and G_{SB} forms.[69] As far as can be determined from the rather complex Agau conjugations this would also seem to be true of the Awngi 'imperfect indefinite' (Hetzron, *VSSA* p13) and the Quara subjunctive (Reinisch, *QuG* §69). In contrast, the Highland East Cushitic 'simple perfect' form appears to incorporate the asssociated independent pronoun, for example Darasa *–enno*.[70] In some Omotic languages, for example S. Omotic Dime, 1s subject pronoun *-t* parallels the equivalent *t*-based independent pronoun, but in other languages the 1s pronoun is *n*-based, as in Dizi (N. Omotic) *-no*, which is closer to the proposed Common Cushitic IPP form. But whatever the precise relationship between the Cushitic and Omotic forms they are clearly distinct from the proposed *k*-based Sigmatic form.

6.2.2.6 Cushitic suffixed possessive (SPP) and object 1s pronouns (SVOP) tend to be identical (originally **-ī*) and as such may be related to the Sigmatic SPP **-ī* (*ICGSL* p106). If so, and noting that the Sigmatic SPP form is unrelated to the proposed *k*-based 1s morpheme, could the Sigmatic form be a further instance of E-series > J-series innovation?[71] The commonest Hausa 1s pronoun is *ni/a*, used for both subject and object, and which clearly stands closer to proposed non-Sigmatic IPP morpheme **ani* than to Sigmatic **aku*.[72]

6.2.3 2nd Singular

6.2.3.1 The evidence initially suggests that the Common Semitic independent 2nd singular form was **'ant*, with final gender markers *–a* (m) and *–i* (f) (*OCG* §26.2). The equivalent Egyptian forms are *nt-k* (m) and *nt-t* (f) (*EG* §64) where the *nt-* element may be related to Semitic **'ant*. However, as *nt* also occurs in Egyptian 3rd person IPP forms *nt-f* (m) vs *nt-s* (f) it is either unrelated to the Semitic forms or has been

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[69] For data and the notations G_{SA} and G_{SB} see *BdSL* §6.1.

[70] G. Hudson 'Highland East Cushitic', §5.1.7, in *NSLE*.

[71] Suffixed object pronoun **-ni* is purely Semitic and could originate in the short form of the independent pronoun. It does not occur in Egyptian or Berber.

[72] W.H. Migeod, *A Grammar of the Hausa Language*, p72.

mapped onto the Egyptian 3s forms by analogy ; at first sight elements *–k* and *–t̲* in the Egyptian 2nd person forms are suffixed pronouns (*EG* §34). Earlier Egyptian 2s and 3s forms are *t̲wt* and *śwt* (both common gender) where *t̲w* could conceivably originate in *ku* (*EG* §64).[73] *k*-based 2s morphemes are attested in the Akkadian oblique case IPPs, e.g. accusative *kāti/u* (m) vs *kāti* (f) (*OCG* §36.3) and also in Berber, e.g. Tuareg *kay* (m) vs *km* (f) - although the Kabyle and Tamazight forms also incorporate an *n*-based morpheme whose origin is more elusive, e.g. Ait Hasan *kiyy-in* (m) vs *kmm-in* (f) (*BeSL* §8.1). Thus with various reservations these data could be taken as evidence that the Sigmatic 2s forms were originally *k*-based, similar to the proposed Sigmatic 1s form.[74]

6.2.3.2 This conjecture is supported in that the original Cushitic 2s IPP appears to have been **ati*, which, if the Sigmatic 2s morphemes were indeed *k*-based, could have been the source of Semitic **'ant*, albeit the Cushitic forms are gender neutral and there is no evidence for earlier gender-specific forms. But with **ati* compare Dasenach *kūni* and Werizoid *ako*, which could point to some form of *k*-based morpheme but may alternatively merely reflect a shift *t* > *č* > *k* or similar. Thus although the evidence is far from conclusive, it may be that the original Sigmatic 2s IPP morpheme was *k* based and the proto-Cushitic form *t* based.

6.2.3.3 A similarly mixed picture emerges from the G_S verb subject pronouns. In Cushitic, the LEC and Agau 2s morphemes appear to originate in **–ta* or **-ti*, which are to some extent predictable from proposed Common Cushitic IPP form **ati*.[75] The HEC G_S morphemes are various but may originate in **t(v)nti*, which perhaps combines an original subject pronoun *t(v)* and IPP *a(n)ti*.[76] In Arabic, Akkadian, Hebrew, etc. the G_S form has 2s *–ta* (m) vs *–ti* (f) or similar which, apart from being gender specific resemble the Cushitic forms, as does Egyptian old perfective *-ti* (*EG* §309) which is common gender and can be reconciled both with the proposed Cushitic and Semitic *t*-based forms[77] ; the Berber

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[73] **With 3s *śwt* compare the Assyrian forms *šūt* (m) vs *šīt* (f) (W. von Soden, *Grundriss der Akkadische Grammatik (GAG)* §41f).**

[74] **But only with difficulty – if at all – can this proposal be reconciled with the proposal in *MPSVS* §4.1.4 that the 2nd person prefixing pronominal morpheme was *t*-bsed.**

[75] **Vowels marking differing verb aspect. For LEC see *BdSL* §6.2.2 ; for Agau see e.g. L. Reinsich *Quara-sprache [QuG]*, §69 and R. Hetzron, *The Verbal System of Southern Agau [VSSA]*, §1.2.3**

[76] **G. Hudson, 'Highland East Cushitic' §5.7.1 (*NSLE* p263).**

[77] **Common *-āti* occurs in the Assyrian and occasionally aB permansive (*GAG* p*8).**

stative/qualitiative verb also displays a dental-based subject morpheme in its 2s form (Table 6 in *BeSL* Section 4). But in the more southerly Semitic languages, Ethiosemitic, ESA and MSA, the 2s subject morphemes are *–*ka* (m) vs *–*ki* (f), which support an original *k*-based Sigmatic pronoun, although these forms could of course have been innovations by analogy with the associated 1s morphemes (cf. the discussion of G_S 1s morphemes at §6.2.2.4). The 'Palaeosyrian' dialects also have G_S forms with *k*-based 2s morphemes (*OCG* §40.5).

6.2.3.4 That the Sigmatic 2s morphemes were originally *k*-based is further supported by the Semitic and Berber suffixed personal and suffixed verb object pronouns (SPP and SVOP), which are reconstructed as Semitic *–*ka* (m) vs *-*ki* (f) and in Kabyle, for example, are –*k* (m) vs -*kem* (f) (Table 8 in *BeSL* §8.2). Furthermore, if Egyptian character *t* more or less represents phoneme /č/ the SPP-forms -*k* (m) vs -*t* (f) [*EG* §34] would parallel the Semitic and Berber forms.[78] But all this would suggest that the typical *k*-based SPP/SOP morphemes of Cushitic (e.g. LEC *-*ku,* Agau *-*kwə*, HEC Kambata -*ke*) may be borrowings from Sigmatic or (less likely) borrowings from some Semitic language ; but such a conjecture is undoubtedly weakened by the apparent absence from Cushitic of any alternative potential SPP/SVOP morpheme.

6.2.3.5 The Omotic 2s independent morphemes are also gender neutral and are quite varied, for example (N. Omotic) Kullo and Kefa *ne* but Dizi *yetu* (vs 1s *yinu*), and Hamer *ya* (S. Omotic). Omotic G_S-form 2s pronouns are similarly varied, for example Kefa -*(v)n(v)*, Kullo -*ne(na)*, Dizi -*to* and Dime (S. Omotic) –*n*. Thus from both N. and S. Omotic there is not only evidence for an original *n*-based 2s morpheme, but also for a *t*-based form. This situation is to some extent replicated in the suffixed personal pronouns, e.g. Kullo *ne*.

6.2.3.6 Hausa 2s pronouns, whether independent, subject, object or suffixed, are all based on –*ka* (m) vs -*ki* (f) (Migeod, *GHL* p72), and thus are more closely related to the proposed Sigmatic morphemes, particularly in the occurrence of distinct masculine and feminine forms.[79] The 2s (suffixed) subject pronoun of the Margi aorist is gender-free -*gə* (Hoffmann, *GML* p174), which presumably shares a common origin with the Hausa forms.

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[78] But note that the Egyptian SVOP-forms are -*tw* (m) vs –*tn* (f) [*EG* §43].

[79] Hausa subject pronouns always precede their stem (Migeod, *GHL* p125ff). It should also be asked to what extent the Chadic languages have borrowed from Arabic and Berber?

6.2.4 3rd Singular

6.2.4.1 Distinct masculine and feminine 3s forms occur in all the languages under consideration. In Semitic, sibilant-based IPPs are common, for example Akkadian *šu* (m) vs *ši* (f), but not universal (*OCG* p306/7). The Egyptian forms are *nt-f* (m) vs *nt-s* (f), where the 3ms form seems to incorporate demonstrative *p*, and element *s* of the 3fs form appears to be a suffixed personal pronoun (for *nt* see at §6.2.3.1). An *nt(t)-* element also occurs in Berber, where the dedicated pronominal elements are *–a* (m) vs *-at* (f), for example Kabyle *neṭṭa(n)* vs *neṭṭat* (*BeSL* §8.1 Table 7). But sibilant-based IPPs are also common in Cushitic, as for example HEC *isi* (m) *ise* (f) (*NSLE* p256), and also in LEC, although the latter forms may well originally be Semitic (e.g. Beḍawiē and Saho/'Afar) or Semitic loans. On the other hand the Agau forms suggest an earlier *n*-based Cushitic morpheme, for example Bilen *ni* (m) vs *nərī* (f) (the latter from *nətī*, Appleyard, *CDAL* p80, 121). With the Agau forms compare Oromo *inni* (m) vs *isēni* (f), S. Cushitic *ìnós* (m) vs *ìnò'ín* (f), both pairs apparently combining *s-* and *n*-based morphemes ; also Common S. Omotic **no* vs **na*.[80] These various *n*-based Cushitc/Omotic morphemes could thus be taken as evidence for an original *n*-based E-series, although for N. Omotic compare Dizi *iti* (m) vs *iži* (f) and Kullo *i* vs *a*.

6.2.4.2 The Hausa forms are somewhat complex but the most archaic masculine form appears to be *ši*. There are no sibilant-based feminine forms, where *ta* is the most common (*GHL* p72) and is perhaps related to the proposed Sigmatic feminine marker (see §6.3 below).

6.2.4.3 Of Semitic G_S-form subject morphemes the 3ms is the simplest, marked (if at all) by a final vowel, and in essence serving as base for all other G_S forms ; 3fs morpheme *–at* in fact suggests that the original morphological distinction between the G_S 3ms and 3fs forms was simply one of gender rather than of subject. This pattern is to some extent also attested in the Egyptian old perfective, where the masculine morpheme is occasionally *-w* and the feminine morpheme is *–ti*,[81] and in the Berber stative form, which has *Ø* (m) vs *(v)t* (f) (*BeSL* Section 4 Table 6). Similar patterns are also attested in Cushitic G_S forms (LEC, Agau and in two HEC dialects[82]) although not in Omotic, where a range of 3s morphemes

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[80] **Common S. Omotic data from Fleming, 'Omotic Overview' (*NSLE* p315).**

[81] ***EG* §309. In other Egyptian verb conjugations the 3ms pronoun is *–f* (< -**p*) but this is taken to be a (relatively) later innovation ; see *ACSE* §6.2.3).**

[82] **For selected LEC conjugations see *BdSL* Table 6.3 and for Agau see Hetzron, *VSSA* §1.2.3 (Awngi) and Reinisch,**

is attested.[83] The pattern *Ø* (m) vs *(v)t* (f) could thus either be original to the original J-series language or be a Sigmatic innovation under E-series influence. In the former case the structure could have been an early loan into Cushitic among the E-series languages or be an innovation in Common Cushitic under Semitic influence, on the evidence of the Agau IPP forms perhaps replacing an earlier *n*-based morpheme. The Hausa subject morphemes are those discussed in §6.2.4.2 ; note also Margi 3s *já* in association with the aorist verb form (*GML* p174).

6.2.4.4 The sibilant-based Semitic 3s suffixed personal and suffixed object pronouns (SPPs and SVOPs) (*OCG* §36.16) can readily be reconciled with the associated IPPs, as can the Egyptian 3s SPPs (*EG* §34) and SOPs (*EG* §43), although once again the 3ms form in the former is *–f.* Of the Berber SOPs, Tuareg has *–s* or *-ṯ* (common gender) where Tamazight has *-t* (m) vs *–tt* (f) and Kabyle has common *-t* (*BeSL* §8.2.1 Table 8) ; but compare the Tamazight 3rd person SPPs, which are *-as* (3s), *-asn* (3mp) and *-asnt* (3fp). In Cushitic, sibilant-based suffixed pronouns occur in Beḍawie (Halenga 3s *hos* and 3p *hosna*) and in some HEC languages (e.g. Kambata *si* (m) vs *-sa* (f)),[84] but the relative paucity of such forms in Cushitic as a whole suggests that sibilant-based suffixed pronouns may be borrowings, although whether Sigmatic (HEC?) or Semitic (LEC?) is as usual difficult to say. But there is no strong evidence for an alternative Cushitic form, although the prominence of *n*-based forms in Agau (as with the IPPs) supports a possible *n*-based original, although this would beg the question as to why this group of languages failed to introduce the postulated Sigmatic forms along with the other Cushitic language groups. Among other SPP/SOP forms Hausa has *–sa* (m) vs *–ta* (f) (*GHL* p72), with which compare Saho *kāy* (m) [< *čāy* < *šāy*?] vs *tay* (f) (*Irob-Saho* p31).

6.2.5 1st Plural

6.2.5.1 The Common Semitic 1p IPP form appears to have been **naḥnu* or similar, where phoneme *ḥ* is diagnostic (*OCG* §36.2). The equivalent Berber forms have *k* rather than *ḥ*, as for example Ait Hassan (Tamazight) *nukkn-i*, but can otherwise be fairly comfortably reconciled with the Semitic forms (*BeSL* §8.1.1 Table 7). Among Cushitic IPPs Beḍawie *hēnén* is probably Semitic, and likewise other Cushitic

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***QuG* §69 (Quara). HEC paradigms on p263 of *NSLE* (§5.7.1) ; but note Burji *(an)ni*, common gender, which is reminiscent of the Agau *n*-based IPPs.**

[83] See for example *NSLE* p324 (Dime, S. Omotic) and p374 (Kefa, N. Omotic).

[84] Table 12 in *NSLE* p257.

bisyllabic forms with long vowel, e.g. Saho *nānu* and Quara *anän*, which could also be understood as originating in a non-Cushitic form with *ḥ* or *h*.[85] Egyptian *inn* may also have lost an original *ḥ*.

6.2.5.2 IPP forms in the other Cushitic languages tend to be monoconsonantal, e.g. Oromo *nuy*, Werizoid *ine*,[86] along with those of at least some N. Omotic languages (Kefa *no*, Kullo *nu*) - although proposed Common S. Omotic **wət* presumably has a different origin ; Hausa IPP *mu* is also reminiscent of the Cushitic and Omotic monoconsonantal forms. Is it therefore possible that, rather like 1s **'ana-aku*, the Sigmatic 1p form originates in an E-J composite **na-kunu* > **na-ḥnu* or similar, where *na* is the E-series and *kunu* the J-series contribution? If this were the case the Berber forms might then be more archaic than the Semitic.

6.2.5.3 But although initially attractive, this hypothesis of a composite origin is not supported by any other Semitic 1p pronoun type. For instance, 1p *-na* in the Common Semitic G_S paradigm is not predictable from *ḥ* in the associated IPP forms, whereas Egyptian *-wyn* perhaps comprises plural *-w* plus 1p marker *–yn* (cf. the 2p form). Plural forms in the Berber G_S paradigm ('verbs of quality') appear to have undergone substantial simplification (*BeSL* Section 4 Table 6) such that the Kabyle and Tuareg 1p forms (at least) have no *n*-based morpheme. Semitic *-na* in fact quite closely matches the *-n(v)* morphemes common in LEC 1p G_S forms (*BdSL* §7.2 Table 7.3) - although not those of HEC, where longer forms occur, for example Darasa *-nenne* (Table 12 in *NSLE* p264). An *n*-based 1p G_S morpheme is also common in N. Omotic G_S forms (Kefa *-on*), although not apparently in S. Omotic, where *t*-based morphemes are attested (e.g. Galila *-ot*). Thus given the mismatch between the 1p morphemes of the Semitic IPP and G_S forms and the resemblance of the latter to the Cushitic/N. Omotic G_S form 1p morphemes, a natural conjecture might be that the Semitic G_S 1p morphemes originate in an E-series language.[87]

6.2.5.4 Both types of suffixing Semitic and Egyptian 1p pronoun are *n(v)*-based. In Berber the Tuareg form is *-na* but Kabyle and Tamazight have forms with a *ġ*-based morpheme (*BeSL* §8.2). Both types of Cushitic and N. Omotic suffixed pronoun also tend to be *n*-based, which would again suggest E >

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[85] Also Burji *nānu* and Sidamo *ninke*, although there is considerable variation among the HEC forms (Table 10, *NSLE* p256).

[86] With these forms compare S. Cushitic 1p IPP *át* or *àtén* (*NSLE* p285).

[87] On the other hand it seems impossible to say whether the Cushitic and N. Omotic *n*-based morphemes derive from a common original or are the result of borrowing one from the other.

J innovation to account for the Sigmatic forms.

6.2.6 2nd Plural

6.2.6.1 Although proposed Common Semitic *'*antanu* (m) is attested variously in all the languages where a 2p IPP occurs, as with the 2s form it may originate in an E-series form, for the Akkadian accusative 2mp form (for example) is *k*-based *kunū-ti*, where *–ti* is the accusative marker (*OCG* §36.3). In addition, Berber forms incorporate a *k*-series morpheme, for example Ait Hassan *kunnimi*, Tuareg *kawni*. With these forms compare Egyptian *nt-ṯn* which comprises the usual *nt-* plus *–ṯn*, which by analogy with the associated 2s form may originate in the *k*-series. In Hausa the simplest 2p form is *-ku*, although other forms incorporate phoneme *n*, for example *kun*, which to an extent resembles the equivalent Berber and Semitic forms.

6.2.6.2 **atin* (LEC) or **antan* (Common Agau) is a prominent 2p IPP pattern in Cushitic. The HEC forms are more varied, certain languages displaying forms possibly related to the foregoing (Burji *ašinu*), but others incorporating a *k*-based morpheme (e.g. Sidamo *ki'ne*), although these may perhaps be associated with the first pattern through *ti'ne* > *či'ne* or similar. As with other IPPs, something of the Cushitic pattern is also evident in N. Omotic (e.g. Kullo *intentu*, Kefa *itto/inta*) although, as before, borrowing from Cushitic cannot be ruled out. Once again the proposed Common S. Omotic form (yēs*) is entirely different (*NSLE* p315).**

6.2.6.3 In G_S conjugations, the dominant morpheme in the Cushitic LEC and HEC languages is *-t(v)n(v)*, true also of the Agau 'subjunctive' forms (see for example the table on *QuG* p43). The N. Omotic paradigms appear to reflect an original **-ito* or similar, which once again may parallel the Cushitic forms. Pattern **-t(v)n(v)* has also been proposed for the 2p suffix in the Common Semitic G_S conjugation, but compare *-k(v)n(v)* in the MSA and EtS languages (*OCG* §40.3, p368). Egyptian old perfective 2p form *–tiwny*, although somewhat complex, is clearly related to the Semitic/Cushitic *t*-based forms ; the attenuated Berber G_S paradigm (*BeSL* Section 4 Table 6) permits no conclusion as to the original 2p form.

6.2.6.4 In all the Semitic languages the 2p posssessive and object pronouns (SPP, SOP) are *k*-based (e.g. Akkadian *-kun(u)*), as also is the case in a number of Berber dialects (eg. Kabyle *-kwen*) and possibly (again) Egyptian *-ṯn*. The pattern in Cushitic is more varied, Agau tending to favour *t*-based morphemes - but not exclusively - also Somali (SOP *ídin*) and N. Omotic Kullo (*inteta*). But other Cushitic languages

have *k*-based morphemes, for example Beḍawiē *–kna* - which may however be Semitic - and perhaps HEC Kambata *'ne* < **kne*?).

6.2.7 3rd Plural

6.2.7.1 The attested 3p IPPs suggest Common Semitic **šun* (m) vs *šin* (f) (*OCG* §36.2) ; compare Egyptian *nt-sn*, combining *-sn* with prefix *nt-*, although here as elsewhere *-sn* is probably a suffix rather than an IPP (*EG* §64). As with the equivalent 3s forms, the Cushitic LEC and HEC 3p IPPs, albeit gender free, appear to be related to the Semitic forms, as for example Saho *ussun*, Oromo *isān(i)* and Burji *išinu* ; as with other N. Omotic IPPs Dizi *iši* may also belong here. The proposed Common Agau 3p form **ŋaw* could point to an earlier (?) *n*-based Common Cushitic form in the same way as the equivalent 3s pronoun (3ms **ŋi*), but there is no support for such a form elsewhere in Cushitic. The first element of the Berber forms (e.g. Ait Hassan 3mp *nut-ni*) is reminiscent of Egyptian *nt-* although the second element *–ni* (fem. *–nti*) is not predictable from a proposed Sigmatic sibilant-based form. The simplest Hausa form is *su* (gender-free), occurring in some contexts as *sun*.

6.2.7.2 The 3p G_S subject pronoun in LEC is **–vn(v)*. For Agau this is probably paralleled by Awngi *-an*, in HEC by Darasa *–ne* and perhaps Burji *–niŋu*, although other HEC languages display a *t*-based morpheme. What can be said with confidence is that the various Cushitic forms are unrelated to the Common Semitic 3mp/3fp G_S morphemes *–ū* and *–ā* ; the former is partly paralleled by Egyptian*–w*, which is common gender. In Berber G_S forms the (common gender) morpheme is *–it* in Kabyle and *–en* in Tuareg. The former reflects the simplification of the G_S paradigm in that dialect but there is no obvious diachronic explanation for the latter, although recall the *n*-based element in the Berber 3p IPPs ; a diachronic relationship with the Cushitic *n*-based morphemes seems improbable. Thus, excluding the rather doubtful evidence of Berber, 3p forms in the G_S verb paradigm appear to be a case where the E-series languages and Sigmatic have remained independent.

6.2.7.3 Semitic SOPs and SPPs tend to reinforce the sibilant-based pattern of the equivalent IPPs, as does Egyptian *–sn*. The Common Berber morpheme tends towards **–ten* although the alternative Tuareg forms *–sn* and *–tn* suggest that **–ten* may originate in **-sen*. In Cushitic there is evidence for sibilant-based forms in HEC but the pattern in LEC is more varied, largely paralleling that of the singular forms. As with other Agau 3rd person forms *–nay* is not paralleled elsewhere.

6.2.8 Summary

6.2.8.1 Based on the foregoing, Table 3 proposes putative sets of E-series and J-series/Sigmatic pronouns, accompanied for reference by the Hausa series. Neither the E-series language(s) nor Hausa offer evidence for dual forms.

TABLE 3 PROPOSED SIGMATIC AND E-SERIES PRONOUNS

	E-Series			Sigmatic			Hausa	
	Independent	Suffixed	G_S	Independent	Suffixed	G_S		
1s	ani	-ī	(-an)	aku	-(n)ī	-ku	ni/a	1s
2ms	ati	-(a)ti	-t(v)	aka	-ka	-ka	ka	2ms
2fs				aki	-ki	-ki	ki	2fs
3ms	na	-(v)	-(v)	šu	-šu	(v)	ši	3ms
3fs				ši	-š(v)	-at	ta	3fs
1p	nu	-n(v)	-n(v)	kunu	-na	-na	mu	1p
2mp	atin	-t(i)n(v)	t(i)n(v)	kuna	-kun(v)	kun(v)	ku(n)	2mp
2fp				kuni				2fp
3mp	naw	-(v)n(a)	-naw	šun	šun	-ū	su(n)	3mp
3fp				šin				3fp

6.2.8.2 For the E-series 1s forms the only Cushitic evidence for an *n*-based G_S morpheme comes from HEC, where for example Darasa has *–enne* (Table 16, *NSLE* p263) as against 1p *–nenne*, forms which permit an analysis *–en-ne* vs *–nen-ne* although second morpheme *–ne* would remain unexplained. The G_S evidence from N. Omotic, for example Dizi *–no* and Janjero *–aŋ*, is more convincing. The proposed Sigmatic G_S 1s morpheme **-ku* requires the *–t(u)* of Arabic, Hebrew, Aramaic, etc. to be an innovation, perhaps by analogy with the equivalent 2s forms. The Hausa 1s form, like the 1p, stands closer to the proposed E-series morphemes than to the Sigmatic forms.

6.2.8.3 The proposed Sigmatic 2s IPPs **aka* and **aki* are supported by Berber forms and the Akkadian oblique forms (§6.2.3.1). But if this analysis is correct then, with the partial exception of Akkadian, Common Semitic must have adopted what is taken to be an E-series form *'ant(v)* although the argument in support of this position is not entirely convincing ; a similar argument underlies the proposed 2p morphemes. If the foregoing is generally correct it would then follow that the Hausa *k*-based 2nd person forms are also more likely to have originated in Sigmatic.

6.2.8.4 If the proposed E-series 3s IPP is correctly analysed as **na*, the sibilant-based forms attested in various Cushitic languages must either be introductions from an earlier J-series language (pre-c.5,000

BCE?) or from Sigmatic.[88] The main evidence for *_na_ comes from Agau (and S. Omotic) but the lack of an _n_-based morpheme in the equivalent Cushitic G_S forms (except Burji) is not encouraging. The _t_-based feminine marker is sporadic in Cushitic and absent from Omotic, but is systemic in Semitic, so that the common occurrence of 3fs _–(v)t_ in Cushitic G_S paradigms could also be an innovation from Sigmatic/Semitic : compare the 3p morphemes, where there is stronger evidence for an _n_-based form in the E-series languages. The Hausa forms once again stand closer to Sigmatic than to the E-series forms.

6.2.8.5 The 1s form *_aku_ suggests, by analogy, that phoneme _ḥ_ characteristic of the Semitic 1p IPPs may originate in _k_ (cf. the Berber forms), but this would beg the question of why only _k_ in the Semitic 1p form became _ḥ_ rather than remaining _k_ as in the 1p and 2p morphemes. Sigmatic 1p IPP *_kunu_ would of course imply that the equivalent G_S and SPP morpheme _-na_ may be introductions from the E-series languages. The _nu_ conjectured for the E-series 1p IPP is based partly on Cushitic and partly on equivalent N. Omotic forms (e.g. Dizi _inu_).

6.3 Nominal Gender

6.3.1 Masculine gender is unmarked on Sigmatic singular nouns and the feminine is typically marked by superordinate morpheme _–(v)t_, where in Common Semitic _(v)_ is provisionally taken to have had value _–a-_ in the singular and _–ā-_ in the plural.[89] As ever, the Cushitic data is more complex. Feminine nouns in Kambata and to a lesser extent Hadiyya (both HEC) are marked by _–ta_ (*NSLE* p251, §5.2.1), and a number of feminine nouns in final _–at_ occur in Beḍawiē, although these for the most part probably originate in the Semitic stratum of that language - albeit that a number of examples are Cushitic in origin.[90] However there would appear to be no evidence that Saho feminine nouns of Semitic origin and ending in a vowel ever incorporated a final _–t_-based morpheme.[91]

6.3.2 Saho has a number of non-Semitic feminine nouns in final _–ā_ or_–ō_, for example _bolā́_ 'flame'

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[88] Given the relative paucity of Semitic lexical items in HEC, on this argument it is not impossible that the HEC forms pre-date the 'Semitic' forms in other languages .

[89] Form _–āt_ may in fact originate in _–āt_. For Egyptian see Gardiner *EG* §26 and §72 ; for Berber see F. Sadiqi *Grammaire du Berbère [GdB]* p112.

[90] See *BdSL* §10.7.

[91] Although it would seem that gender is not usually marked in Oromo there are occasional instances where _-essa_ is suffixed to masculine nouns and _-ettī_ to feminine nouns (G. Gragg, *Oromo of Wellegga* (*NSLE* p180)).

and *allṓ* 'bark (of tree)', but there is nothing comparable in Somali (also LEC) where, rather like Beḍawiē, noun gender tends to be marked on the associated definite article, when present. Gender has for the most part been lost from nouns in the N. Agau languages although in Bilen, to take one example, there are many singular nouns ending in *–ā* which could conceivably have originally been feminine.

6.3.3 A not uncommon phenomenon in Cushitic is a distinction between *k*- (m) and *t*- (f) based morphemes, for example Somali singular demonstratives *kan* (m) vs *tan* (f) 'this/that' (*SoG* §227) and Sidamo *kuni* (m) vs *tuni* (f) 'this' (*NSLE* p255). Kambata masculine nouns (HEC) are marked by final *–(h)a*, possibly originating in *ka* ; phonemes *ŋ* and *č* are common masculine markers in Dasenach (along with feminine *-(t)ti* (*NSLE* p204)) where the *č* may originate in *k* (compare §6.2.3.2). More sporadic evidence for a *k* vs *t* distinction is provided by forms such as Werizoid *opop-ko* 'grandson' vs *opop-to* 'granddaughter. Thus if, as would appear, *k* vs *t* is a genuine Cushitic distinction it follows that *t*-based feminine phonemes in Cushitic may in general only coincidentally be related to the Sigmatic feminine marker, for there is no evidence of a *k*-based masculine morpheme in the Sigmatic languages.

6.3.4 Somali plural nouns where the (usually) second stem radical is repeated are always masculine, as for example *hub* vs *hubab* 'skin' and the same is also to some extent true of Saho, eg. *hān* vs *hā́nōn* 'milk'. Plural nouns restricted to masculine gender are also exemplified by the Saho patterns *rimíd* vs *rimidā́* 'root' and *fillā* vs *fillit* 'neck'.

6.3.5 Of Omotic languages accessed for this study, N. Omotic Kefa and Dizi distinguish masculine and feminine gender prinicipally by differing vowel suffixes, for example Kefa *-o* (m) vs *-e* (f), although Dizi also has feminine *-in*. S. Omotic Hamer, by contrast, has masculine *-ta* and feminine *-(to)no*. The Omotic gender morphemes thus appear to be related neither to those of Cushitic nor – even less so - to those of Sigmatic. In Hausa, with the exception of nouns referring to females, feminine gender is almost always marked by *–a*, which could equally originate either in an E-series or J-series/Sigmatic form.

6.3.6 In sum, even when allowance is made for the extended period over which the Afroasiatic hypothesis requires the Cushitic and Omotic language families to have been distinct from Sigmatic, there is little evidence for any gender system common to the E-series and J-series/Sigmatic languages, nor for any influence on the Sigmatic gender system from the E-series languages. Nor for that matter is there convincing evidence even for a nominal gender system common to Cushitic and Omotic.

6.4 Number

6.4.1 Akkadian and Egyptian, along with Ugaritic, Hebrew and Aramaic, have only sound plurals (e.g. *GAG* §61e and *EG* §72). Akkadian and Egyptian being the oldest recorded Sigmatic languages it is thus tempting to conclude that sound plurals were the original Sigmatic pattern. In the nominative case Akkadian marks plurals principally by masculine *-ū* and feminine *-āt* (from *–ūt* ?)[92] ; in the absence of a case system, Egyptian has only masculine *-w* and feminine *-wt*. Sound plurals are preserved in varying degrees in the 'later' Semitic languages and in Berber (*OCG* §31.10ff), although broken plurals of many types are widely attested in Arabic, in the Ethiosemitic languages and in South Arabian, both Epigraphic and Modern.[93]

6.4.2 The Cushitic languages likewise display both sound and broken plurals but frequently also utilise a type where a plural is formed by reduplicating the second consonant of a (typically) biconsonantal singular stem. Cushitic sound plural morphemes tend to be of two types, those comprising only a suffixed vowel and those which are *t*-based, both types being gender neutral. Of the former, Somali commonly has *-o* or *-yo,* whereas Saho and Beḍawiē have *-ā* and *-a* respectively, the latter being particularly common. Among HEC languages Sidamo has *-a* and Darasa/Hadiyya have *–uwwa* or *-ewwa*.[94] *T*-based plural morphemes are instanced by Saho *hōd* vs *hŏ́d-it* 'body' and Bilen *ganŏ́* vs *ganŏ́-t* 'skin'. In N. Agau the plurals of singulative nouns are marked by *-t*, for example Bilen *dimmū-rā* vs *dimmū-t* 'cat' (Reinsich, *BiG* §134). Plural markers *-ōta* and *–ota* are common in Oromo, and HEC Kambata has *–ata*.[95]

6.4.3 Broken plurals are common in Beḍawiē, less so in Saho and Bilen, but are apparently rare in HEC and absent from Somali. Beḍawiē broken plurals are typically of the type *adū́m* vs *adúm* 'word', with change of vowel and/or accent, and similarly in Saho, eg. *bakál* vs *bā́kōl* 'kid'[96] ; some of these nouns are Semitic loans and others may reflect Semitic influemce. But the fact that broken plurals are absent

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[92] Akkadian also marks a group of individuals rather than general plurality by (nominative) masculine *-ānu* (*GAG* §61i). It is possible - although far from certain - that *-ū* and *-w* originate in *-ūm* (*OCG* §31.10).

[93] Broken plurals also occur in Berber, although morphologically these seem to be unrelated to their Semitic equivalents (Sadiqi, *GdB* p110).

[94] N. Agau, at least, appears to have no sound plurals of this type. No data accessed for Awngi.

[95] G. Gragg, *Oromo of Wellegga*, (*NSLE* p180).

[96] Compare the common N. Agau pattern *amärā́* (s) vs *ámär* (p) 'year' (*BiG* §139).

from Akkadian and the N.W. Semitic languages - not to say Egyptian - could perhaps suggest influence in the E-series > J-series/Sigmatic direction.

6.4.4 As noted above, a third type of Cushitic plural replicates the final stem consonant of the singular form - presumably originating in full reduplication. Such forms are common in Somali (eg. *dā́l* vs *dā́lal* 'lentil'), Saho (*hān* vs *hā́nōn* 'milk') and Bilen (*qāf* vs *qā́fef* 'bark'), but seem not to occur in Beḍawiē.[97] Plurals with repeated final stem consonant also occasionally occur in the Omotic languages, as Kefa (N. Omotic) *bušo* vs *bušišo* 'son', and in Hausa where they are common (*GHL* p20). This type of plural is rare in Semitic (*OCG* §31.21), Berber and Egyptian, suggesting that such plurals are essentially an E-series phenomenon.

6.4.5 With the exception of reduplicated forms, plurals in the Omotic languages seem to be sound and again are generally not gender specific. These morphemes are typically either *t*-based (Kullo *-(a)tu* [*NSLE* p331]) or *n*-based (Kefa *na'o* (m) vs *ni'o* (f) [*NSLE* p372]).[98] Other than reduplicated forms Hausa has only sound plurals (*GHL* p22ff), the most common suffix being *–ai*, followed by *-una*.

6.4.6 Although most Cushitic sound plurals are not gender specific the Afroasiaticist would presumably be tempted to associate vowel-based Cushitic (and Hausa) plural endings with Sigmatic masculine plural *-ū*, and *t*-based plural morphemes with Sigmatic feminine *-(ū)t*. Given the enormous span of time required by the Afroasiatic hypothesis to have elapsed since the J-series and E-series languages were one, the loss of any gender-specific function in E-series sound plural morphemes would not be too surprising. But alternatively it could be conjectured that the Cushitic sound plural endings were in fact the result of J-series/Sigmatic > E-series innovation, which could then suggest that broken and reduplicated plurals were the original E-series types and that the former at least were subsequently introduced into certain Semitic languages, especially those closest to Bab ul-Mandab. However not the least problem with this conjecture is that broken plurals are considerably more common in Semitic than in Cushitic and are structurally more varied.

6.4.7 Although missing from Berber, dual forms are attested in Semitic and Egyptian and are traceable to a common Sigmatic original (*OCG* §31.2ff). But in clear contrast, dual forms appear to be

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[97] Cf. Sidamo *hogobo* vs *hogobba* 'load'.

[98] Also Hamer (S. Omotic) plural *-na* which 'specifies several particular cases' and (feminine) *-tono* or *-no* 'when all cases are to be specified' (*NSLE* p407/8).

almost entirely absent from Cushitic,[99] Omotic and from Hausa among the Chadic languages.

6.5 The Afroasiatic Fallacy

6.5.1 Despite the insights it faciliates, 'mass comparison' is in the final analysis a somewhat superficial technique that too freely encourages the non-rigorous positing of supposed lexical correspondences, which even the most rudimentary statistical analysis would give cause to doubt. In the case of 'Afroasiatic', mass comparison then encourages the identification of supposed grammatical correspondences, but these likewise weaken under serious scrutiny, even when allowance is made for the great length of time and several circumstances in which the various language families have been in contact.

6.5.2 A further problem, distinct from those intrinsic to the mass comparison technique, is the failure of Afroasiaticists in general and Semitists in particular to properly address important questions relating to the history of the Sigmatic languages. To take perhaps the major example ; although investigators have in rudimentary fashion addressed the question of the biradical origin of the Sigmatic (in practice Semitic) triradical root system their studies without exception have been inadequate (see *BOSTRS* passim). This inadequacy has in turn had the consequence that questions which follow from the notion of a Sigmatic language based on biconsonantal stems or roots have never been even superficially addressed (so far as this author is aware), in particular the question of the likely structure of a common Sigmatic verbal system (see *MSVPS* passim). An important and particular consequence of this omission is then the failure to correctly understand the history of prefixing verbs in the Cushitic languages, a failure which has led to the improbable claim that such verbs are a commom Afroasiatic heritage (see *BdSL* §6.2).

6.5.3 Grammatical links between the Omotic and Sigmatic languages are in general conspicuous by their absence, likewise convincing lexical correspondences. However there are clear links between Cushitic and N. Omotic in particular, an obvious example being the repertoire and positioning of the deriving morphemes of the verb.

6.5.4 The history of the Chadic languages presents rather different problems. The quite distinct Y-chromosome DNA of Chadic-speakers is a persuasive initial argument against any strong version of an Afroasiatic hypothesis that includes Chadic languages. On the other hand the L3f3 mtDNA haplogroup

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[99] Beḍawie *īīī* 'eye' is feminine in the singular (indicated by the associated definite article), masculine in the dual and masculine or feminine in the plural (E.M. Roper, *Tu Bedawie [TB]* p212).

common among Chadic peoples is clearly African in origin and could account for correspondences between Chadic and the Cushitic and Omotic languages, the suffixed deriving morphemes again being a case in point.

6.5.5 In sum, although the evidence offered above is fragmentary, the linguistic, climatic and DNA evidence taken together substantially weaken any claim that there was ever a common Afroasiatic language. That there was contact between the J- and E-series languages, probably before 5,000 BCE, appears beyond doubt, although the precise circumstances and linguistic consequences of this contact remain to be determined. It seems on the one hand to have given rise to an essentially Asian language, proto-Sigmatic, displaying a number of African influences, and on the other hand to N. E. African languages with Asian (J-series?) influences. This hypothesis could then, if rsther doubtfully, require that J-series influence on the Chadic languages was most probably acquired as the ancestors of Chadic-speaking males passed through the Levant into Africa.

7. Aspects of the History of the 'Afroasiatic' Peoples

7.1 Nabta Playa, Naqāda

7.1.1 Nabta Playa, at latitude 22°N and about 100 km west of Abu Simbel, is a site of considerable interest for the pre-history of N.E. Africa providing evidence, as it does, for occupation from c.9,000 BCE, with the usual interruptions at pluvial minima. Nabta Playa is particularly known for its Late Neolithic megalithic structures, dating from c.4,800 BCE onwards, some of whose orientations are calendrical, together with a religious cult based on the interment of cattle, a feature common in Saharan cultures of the time (*ECHA* p247). Although the Nabta Playa monuments appear to be unique, their astronomical features obviously invite comparison with the later and admittedly vastly more developed Egyptian structures, encouraging the conjecture that the builders of Nabta Playa may have been among the ancestors of the 'classical' Egyptians.[100]

7.1.2 Nabta Playa in fact provides evidence for two distinct cultures post-5,000 BCE, the earlier megalithic, accompanied by its own style of pottery,[101] and a later culture dating from c.3,500 BCE

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[100] Megalithic structures are also attested in N. Arabia, although provisionally dated to the Chalcolithic, i.e. from about 4,000 BCE (reference in Nadeem, *RAA* p129).

[101] Earlier pottery replaced before 4,900 BCE by 'burnished and smooth (occasionally black-topped) pottery'. S. Hendrickx and P. Vermeersch, 'Prehistory' in I. Shaw (ed), *The Oxford History of Ancient Egypt (OHAE)* p34.

characterised by tumuli. Such tumuli are widespread at this time, being common in W. Hawar (§5.3.5), in Palestine (Lipiński, *OCG* §3.3, p44) and also in Jordan and Arabia. A date of c.3,500 BCE for the tumuli fits comfortably within the dates proposed for the Chalcolithic period in S.W. Asia. Thus if the Chalcolithic people in Arabia and the Levant were Sigmatic speakers, it may be that the Egyptian tumuli reflect a culture in common with S.W. Asia and whose builders could thus have been the source of the Sigmatic component in Egyptian.[102]

7.1.3 the earliest *settled* culture in the Nile Valley appears to have been the Badarian, dating to between 5,000 and 4,000 BCE and thus roughly contemporary with the megalithic culture at Nabta Playa and the Khartoum Neolithic in Nubia.[103] The seeming absence of settlement in the Nile delta between 5,000 and 4,000 BCE supports a conjecture that the Badarians migrated into the Nile Valley from the western desert, or from the south, rather than from the Levant. If so, the Y-chromosome DNA of the Badarians was most likely of E-series and the Badarians may thus have spoken an E-series language which, along with Sigmatic, could have contributed to classical Egyptian.

7.1.4 The Naqāda I (Amratian) culture dates to about 4,000 BCE and appears to have closely succeeded the Badarian. It seems to have been an essentially indigenous development with little or no external influence, except perhaps from regions west of the Nile.[104] Naqāda I seems to have been a neolithic culture (albeit with copper knives as funerary offerings) ; so far as can be judged, the figures represented on Naqada pottery vessels are reminiscent of those of neolithic rock art.[105]

7.1.5 Between c.3,500 and 3,200 BCE Naqada I was succeeded by the Naqāda II (Gerzean) culture

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[102] Prominent in the Levant during the mid-4th millennium BCE is the Ghassulian, a Chalcolithic culture characterised by copper working and settled agriculture. But the Ghassulians appear not to have originated in the Levant nor to have had a nomadic background and so may have migrated from Anatolia or the Fertile Crescent (K.M. Kenyon, *Archaeology in the Holy Land*, §39k).

[103] Hendrickx and Vermeersch, in *OHAE* p39-43.

[104] 'In broad terms, the Amratian is not different from the earlier Badarian culture. The burial rituals and the types of funerary offerings are so similar that one wonders if the latter does not constitute an older, regional version of the former' (B. Midant-Reynes, The Naqada Period, in *OHAE* p47): Note also the apparent absence from this culture of any interest in astronomy.

[105] See for example the hunting scene on the 'Moscow bowl' (*OHAE* p49).

which differs in significant ways from Naqāda I, including a more intensive working of copper.[106] The c.3,500 BCE date for the beginning of Naqāda II again falls witihn the dates proposed for the Chalcolithic in S.W. Asia and it is thus possible that Naqāda II was influenced by Sigmatic speakers (but cf. above at §7.1.2)[107] and merged linguistically with the E-series language proposed for Naqada I to give the Egyptian people and language.[108] But attractive though this hypothesis is, it cannot constitute a complete explanation of the origins of the Egyptian language, for at least the following reasons :

7.1.5.1 When allowance is made for the phonological differences between Egyptian, Common Semitic and Cushitic, and the extended period over which Egyptian evolved independently, there are many Egyptian lexical items which do not currently find correlates in the Sigmatic or E-series languages. This could be explained by the probability, suggested perhaps by the megalithic culture at Nabta Playa but perhaps supported also by the R-type Y-chromosome DNA characteristic of Chadic speakers, that not all the people contributing to the Egyptian language would necessarily have been Sigmatic or E-series speaking.

7.1.5.2 The Maadian culture in northern Egypt is 'strongly reminiscent of the settlements at Beersheba in southern Palestine', which are dated to the Early Bronze Age.[109] If the language of the Early Bronze in Palestine was Semitic (§7.2.1 below), we have a plausible alternative route for a relatively early, and thus perhaps misleading, introduction of essentially Semitic vocabulary and possibly morphology into Egyptian.

7.1.5.3 The precise status of the triradical component of the Egyptian verbal system vis-à-vis that of the Semitic languages remains somewhat unclear. Correlation coefficients have been calculated for the prefixed, suffixed and infixed root augments identified for Arabic, Biblical Hebrew and Egyptian (*BOSTRS* passim). As might be expected, the Arabic vs Hebrew coefficients have good positive values, although the value for suffixed augments is somewhat lower than might be expected. But the coefficients for the prefixed

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[106] Midant-Reynes (*OHEA* p53ff).

[107] Naqāda is readily accessible from the Red Sea via W. Hammāmāt, so that at least some of the people contributing to Naqāda II may originally have entered the Nile Valley from that direction.

[108] E-series linguistic features are readily detectable in Egyptian but are relatively few in comparison with Sigmatic characteristics. This hypothesis also implies that the Naqada II people may also have been responsible for the tumuli of about the same date ; is there any evidence to support this?

[109] Midant-Reynes, in *OHAE* p57 ; E.C.M, van den Brink, 'Settlement patterns in the Northeastern Nile Delta during the fourth – second millennia B.C' (*ECHC* p297).

and suffixed augments of Arabic/Hebrew and Egyptian, while positive, are not particularly impressive, and indeed the values for infixed augments show a nil or slightly negative correlation.

7.1.6 The Naqāda II period was succeeded between c.3,200 – 3,000 BCE by Naqāda III and 'it was during this period that Egypt was first unified into a large territorial state'.[110] Although there is evidence for contact with S.W. Asian cultures, Naqāda III once again appears to be an essentially indigenous development.[111]

7.2 Early and Middle Bronze Ages in the Levant

7.2.1 During the final centuries of the 4th millennium, Early Bronze nomads began moving into the Levant, apparently from the east[112], perhaps ultimately driven by increasing desiccation in northen Arabia. The principal direct evidence for this culture appears to be rock-cut tombs and material imports that suggest they had contact with both Mesopotamia and Egypt (Kenyon, *AHL* §39q and §7.1.4.2 above). The Early Bronze age proper in the Levant appears to have covered the period 2,900 to 2,300 BCE (*AHL* §40a), during which time Palestine provides evidence for a fairly stable urban culture, albeit with increasing evidence of town walls, perhaps reflecting more disturbed times with the onset of the c.2,000 BCE pluvial minimum.

7.2.2 The period 3,300 BCE to 2,300 BCE can thus be viewed as a 'crux' for the evolution of the Sigmatic languages, for from c.3,200 BCE the apparently Egyptian-speaking Naqāda III culture emerges in Egypt, early-bronze nomads migrate into the Levant and then, from about 2600 BCE, proto-Akkadian speakers appear in the Fertile Crescent, perhaps as migrants from eastern Arabia (which could account for some of the differences between E. and W. Semitic).[113] Although in the eastern part of the Fertile Crescent DNA Y-haplogroup J-M172 is more prominent than J-M267 there would appear to be no reason to distinguish culturally between the early bronze settlers in Palestine and the proto-Akkadian-speaking nomads further north and east, so it is possible that both groups were Semitic speaking and the

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[110] K.A. Bard, 'The Emergence of the Egyptian State' (*OHEA* p61-67).

[111] 'Since the 1970s…excavations at Abydos and Hierakonpolis have clearly demonstrated the indigenous, Upper Egyptian roots of early civilization in Egypt. While there is certainly evidence of foreign *contact* in the fourth millennium BC, this was not in the form of military invasion' (Bard, in *OHEA* p65).

[112] Kenyon, *AHL* §39o and compare §3.2.4 above.

[113] S. Moscati et al, *An Introduction to the Comparative Grammar of the Semitic Languages [ICGSL]*, §2.2.

language in Palestine at this time would have beeen some form of West Semitic.

7.2.3 The a**rchaeological evidence points to a further substantial incursion of nomads into Palestine between the middle of the 3rd millennium and the middle of the 2nd millennium, shortly before and then after the c.2,000 BCE pluvial minimum. The obvious conclusion would be that these were yet more people displaced from their traditional grazing areas. These Middle Bronze people of Palestine 'may be identified with great probability as the Amorites' (Kenyon, *AHL* 41e), a hypothesis supported by personal names recorded in the Mari texts and elsewhere, which make clear that Amorite was a West Semitic language utilising G_{PE} verb forms rather than G_{PR} (Section 4 of *ACSE*)[114] and therefore likely to be the primary ancestor of the attested West Semitic languages of the Levant.[115]**

7.2.4 As in N.E. Africa and the Sahel there would in all probability have been a retreat south from central Arabia into S.E. and S.W. Arabia. If so, it is likely that these people would have spoken a precursor of the ESA language, so it may be that the original loci of the languages utilising G_{PE} rather than G_{PR} verb forms (Section 4 of *ACSE*) were south and west Arabia, which latter would have readily facilitated subsequent migration into the Levant.

7.3 The Berbers

7.3.1 One foundation for the conjecture that the verbal systems of all the Semitic languages were originally of type G_{PR} (*ACSE* Section 3) is that such forms occur in Berber, in addition to Akkadian and N. Ethiosemitic. But if, as seems likely, G_{PR}-type verb forms in the Semitic languages were earlier confined to East Semitic (Akkadian), and assuming for the moment that G_{PR} forms in Berber are not a secondary development (in contrast to the equivalent N. Ethiosemitic forms), where and when could Berber and Akkadian have shared a common origin? One obvious possibility is the Early Bronze age, but a major obstacle to postulated migration into N. Africa by proto-Berber speakers at this time is that although the Nile Delta provides evidence for early bronze contact with Canaan (van den Brink, in *ECHC* p295), there would appear to be no evidence for substantial migration from the Levant into N.E. Africa in the 3rd millennium BCE. Moreover it is counter-intuitive to argue on the one hand that early bronze

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[114] **H.B. Huffmon, *Amorite Personal Names in the Mari Texts*. Aside from certain features in the Ebla texts there is little evidence for West Semitic in the Levant prior to the el-Amarna texts, although the Ugaritic poetical texts are assumed to be considerably older than the date of the extant tablets. Summary in Moscati et al, *ICGSL* p8.**

[115] **But compare Lipiński, *OCG* §38.6, p347.**

settlers were moving into the Fertile Crescent and the Levant in part to avoid the consequences of desiccation and then to argue that other early bronze people were simulttaneously migrating into the Sahara, albeit into the coastal and more northerly areas.

7.3.2 A further difficulty is that although the present-day Berber dialects differ substantially, they remain to an extent mutually intelligible and readily traceable to a common original. It must therefore be doubted whether, if proto-Berber speakers migrated into N. Africa during the early bronze age, this relative unity could have been preserved for such a long time over such a wide geographical area, even assuming (as was probably the case) that Berber served as a lingua franca for disparate peoples for whom it was not their first language.[116]

7.3.3 But there is evidence for a subsidiary pluvial maximum in N. Africa after 2,000 BCE, dating to 1,800 BCE at Fayyum (Egypt) and N. Dharfur (Sudan), and 1,000 BCE at Lake Chad. The former date is especially interesting in suggesting a climatic 'window' that could have encouraged a degree of migration from the Nile Valley into N. Africa and the Sahara. Culturally too, this is an interesting period, corresponding approximately to the time of Hyksos dominance in the Egyptian delta region (c.1,630-1,520 BCE). The Hyksos were 'Semites interspersed with Asiatic elements', who 'made use of the horse and war chariot, adopted from the Aryans who displaced them', and whose names were predominantly Canaanite or Amorite.[117] Is it possible then that the Hyksos were the Semitic ancestors of the Berbers? That some Hyksos may subsequently have migrated from Egypt into N. Africa is intrinsically likely and is supported by the fact that the horse and chariot begin to appear in Saharan rock paintings from about this time.[118]

7.3.4 But the linguistic evidence is a problem. Firstly there is little evidence for Egyptian influence on the Berber language, possibly excepting certain independent personal pronouns (§6.3 above). Secondly, the Amorite/Canaanite Semitic speakers who migrated into the Fertile Crescent prior to the c.2,000 BCE pluvial minimum utilised a G_{PE}-type verbal system, and on the evidence of geography, culture and

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[116] The fairly substantial differences between the Berber and Akkadian verbal systems imply that, if there is a 'special relationship' between the languages, features peculiar to the Berber verbal system are likely to have evolved before the Berber language area had become widely spread.

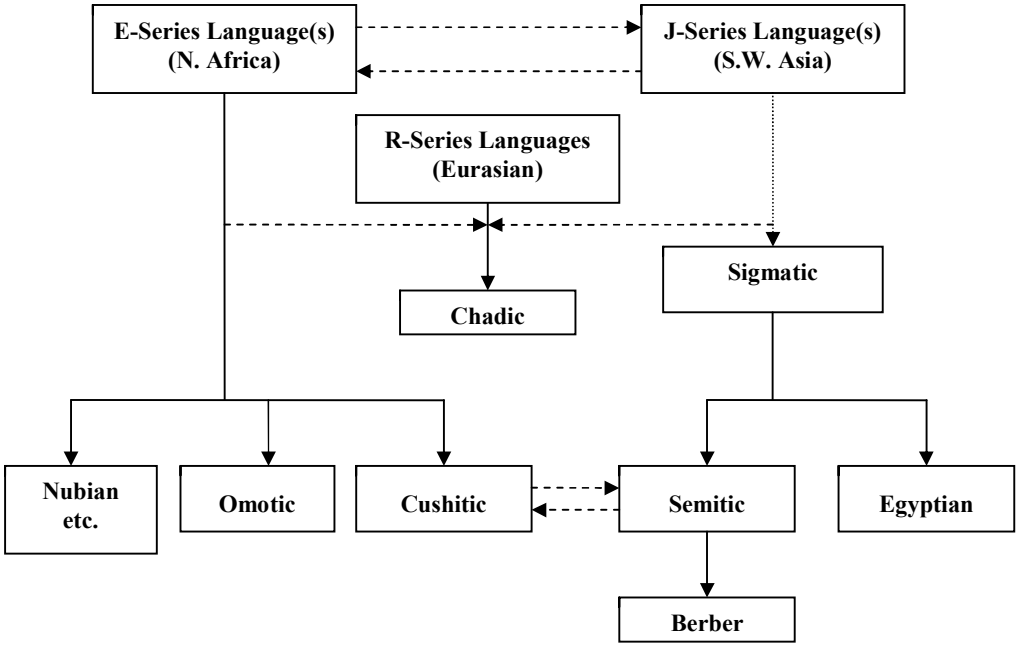
[117] T.W. Thacker, 'Israel's Neighbours – II Egypt' in *Peake's Commentary on the Bible*, §83d). Also J. Bright, *A History of Israel* p54.

[118] Brett and Fentress, *The Berbers* p19ff.

personal names the Hyksos were drawn from Amorite/Canaanite stock. So if the Hyksos were indeed ancestors of the Berbers how can the Berber G_{PR}-type verbal system (*BeSL* §2.2) be reconciled with the G_{PE}-type system of Amorite/Canaanite speakers?

7.3.5 Of **course, for those taking the view that the Semitic verbal system was originally of type G_{PR} there is no difficulty. But if Geʿez and other N. Ethiosemitic G_{PR} forms (of type *yənaggər*) are indeed secondary, deriving from an original G_{PE} form **yinguru* or similar (see *ACSE* §3.2), is it possible that a similar modification may have occurred in Berber? In other words, was Berber perhaps originally an Amorite/Canaanite dialect with G_{PE} type verb forms, which then evolved, in isolation, to yield the attested G_{PR} verb forms, in a similar way to that proposed for equivalent N. Ethiosemitic forms?[119]**

8. Proposed 'Afroasiatic' Language Tree



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[119] **This is not to minimise the differences between Berber and the Canaanite dialects, particularly as regards the lexicon, where Berber, apart from its own internal developments, appears to have incorporated items drawn from non-Sigmatic African languages .**

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Bibliographical Abbreviations

ALAI	**HEINE, B. and NURSE, D (eds), African Languages an Introduction**
ECHC	**KRZYZANIAK, L., KOBUSIEWICZ, M and ALEXANDER, J. (eds), Environmental Change and Human Culture in the Nile Basin and Northern Africa until the Second Millennium B.C**
EHPA	**PETRAGLIA, M.D. and ROSE, J.I., The Evolution of Human Populations in Arabia**
GdB	**SADIQI, F., Grammaire du Berbère**
GHL	**MIGEOD, W.H., A Grammar of the Hausa Language**
GML	**HOFFMANN, Grammar of the Margi Language**
ICGSL	**MOSCATI, S. at al, An Introduction to the Comparative Grammar of the Semitic Languages**
LIE	**BENDER, M.L. et al, Language in Ethiopia**
NS	**REINISCH, L., Die Nuba-sprache**
NSLE	**BENDER, M.L. (ed), The Non-Semitic Languages of Ethiopia**
OB	**OPPENHEIMER, S., The Origins of the British**
OCG	**LIPIŃSKI, E., Outline of a Comparative Grammar of the Semitic Languages**
OHAE	**SHAW, I., (ed), The Oxford History of Ancient Egypt**

RAA **NADEEM, M.A., The Rock Art of Arabia**

RAAf **WILLCOX, A. R., The Rock Art of Africa**

RSEVS **THACKER, T.W. The Relationship of the Semitic and Egyptian Verbal Systems**

TAA **The Times Atlas of Arachaeology**

TB **ROPER, E.M., Tu Bedawie, Grammar, Texts, and Vocabulary**

VSSA **HETZRON, R. The Verbal System of Southern Agaw**